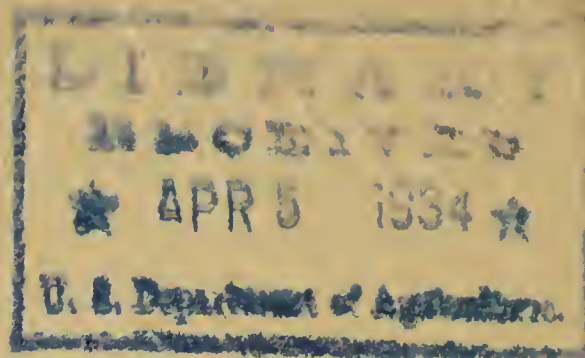


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OLDS & WHIPPLE INC. SEEDS AND FERTILIZERS HARTFORD, CONN.

VEGETABLE
SEED TRIALS
HORTICULTURE

1934



SEED, FERTILIZER

AND

AGRICULTURAL IMPLEMENT CATALOG

for 1934

ALL PRICES SUBJECT TO CHANGE

WITHOUT NOTICE



FERTILIZER FACTORY:

Tolland Street, East Hartford, Conn.

MAIN OFFICE AND IMPLEMENT WAREHOUSE:

164-6-8 State St., Hartford, Conn.

OLDS & WHIPPLE, Inc.



Offices and
Agricultural
Warerooms at
168 State Street,
Hartford, Conn.

Below is our
Fertilizer Fac-
tory located on
Tolland Street,
East Hartford,
Conn.



FOREWORD



1934 finds all industries looking forward with renewed hope and courage. We are steadily marching out of the valley of depression. Much remains yet to be accomplished, but we are definitely on our way to improved conditions.

Many commodities have increased somewhat in price already and the expectation is that the prices on nearly all lines, farm products included, will be higher as the season advances. We shall, however, at all times, maintain our prices at as low a level as possible, consistent with quality. We do not believe in shoddy goods. Quality goods at honest prices are most satisfactory to both buyer and seller.

Our seeds are carefully selected and purchased from reliable growers only.

The Implements we show in this catalogue are those that are best adapted to agriculture here in New England.

We carry a very complete stock of machine repairs and are prepared to render expert servicing on machines we sell. All this is important to the purchaser and should be a definite factor in helping him to decide where to place his business.

During the past year we greatly increased the size of our show room, enabling us to properly display our merchandise. We invite our friends to inspect our new store.

We again wish to express our appreciation to our customers, old and new, for their patronage during the past year and we shall endeavor to so conduct our business that we may be worthy of that patronage in the future.

OLDS & WHIPPLE, INC.

Olds & Whipple, Inc.

List of Fertilizers and Raw Materials

For 1934

O. & W.'s SPECIAL FERTILIZERS

Complete Tobacco Fertilizer
 Blue Label Tobacco Fertilizer
 High Grade Tobacco Starter
 High Grade Tobacco Starter
 and Potash Compound
 Top Dressing and Grass Fer-
 tilizer.
 Market Garden Fertilizer.
 tilizer.

High Grade Potato and Vege-
 table Fertilizer
 Potato and General Purpose
 Fertilizer
 Double Strength Fertilizer
 Corn Special Fertilizer
 Lawn Fertilizer

WILCOX FORMULA

Corn Special Fertilizer
 Potato and General Purpose

Market Garden Fertilizer
 Top Dresser

FERTILIZING MATERIALS

Swift Sure Phosphate.
 Swift Sure Bone Meal.
 C. S. Meal guaranteed analysis.
 Cyanamid--Granular.
 Castor Pomace guaranteed analysis.
 Sterilized Ground Stems.
 High Grade Muriate Potash.
 High Grade Sulphate Potash.
 Nitrate of Potash.
 Carbonate of Potash
 Urea.
 Calurea.

Super Phosphate. (acid phosphate)
 Sulphate of Ammonia.
 Nitrate of Soda.
 Sheep Manure.
 Dry Ground Fish.
 Tankage.
 Steamed Bone.
 Precipitated Bone Phosphate.
 Lime for Agricultural use.
 Fine ground Nova Scotia Plaster.
 Calcium Nitrate.
 Cotton Boll Ashes.

Ammo Phos.

We would call especial attention to our O. & W. Potato and General Purpose 4-8-7 made with a large proportion of the nitrogen derived from organic sources.

We again urge our customers to order their fertilizer at once and allow us to deliver same at an early date and thus avoid the mad scramble that always comes late in the season. There is no good reason for delay.

Our Special Mixtures for all Crops

The following pages give you a list of the special fertilizers which we manufacture at our own factory.

These special mixtures are from tested formulae, proved out by practical growing tests. They are finely ground, and mechanically, in such condition, as to render them readily available to the growing crops.

Their use will repay you. They produce the kind of crops that pay. Used and endorsed by best growers.

Fertilizing Cigar Leaf Tobacco

for Bigger Yields and Better Burning Quality

A good cigar depends upon its burning quality and flavor for its reputation.

Leaf tobacco for making a good cigar must be of the best quality, must hold fire well, not burn too fast or too slowly. It must not coal on the cigar and it must leave a clear white or light gray ash, not a muddy ash.

Cigar smokers everywhere are complaining about the quality of the cigar being made today. Manufacturers cannot make good cigars unless they get good tobacco, and that is where the grower comes in.

Leaf-Wise

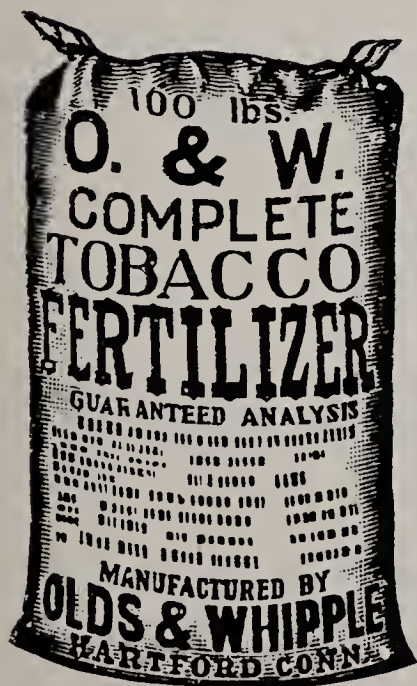
No matter how old a man is, if he is wise, he can still acquire more wisdom. No matter how old a grower is, he can still acquire more wisdom about a tobacco leaf.

The tobacco plant, perhaps more than any other plant, can be and is influenced for better or worse by proper or improper fertilization. In applying fertilizer, the grower must have two essential things in mind: 1, to preserve the productiveness of his soil; and 2, to produce leaf that has the most desirable qualities, namely, BURN — GRAIN — TEXTURE — and COLOR. This is a large order, but it can be successfully met by growers carefully studying the right fertilizers to use.

O. & W. Tobacco Fertilizer

To growers who desire a concentrated mixture, we offer this formula made along similar lines as our "Complete" Tobacco.

GUARANTEED ANALYSIS { 7% Nitrogen
3% Available Phosphoric Acid
7% Actual Potash



O. & W. Complete Tobacco Fertilizer

Thousands of tons of this formula are used up and down the Connecticut Valley, proved to be the best by years of experience. While we make many special formulae to suit the ideas of our customers, O. & W. COMPLETE leads them all in popularity. This formula is the result of years of experimenting on our own farms and is endorsed by buyers of the leaf which is the strongest kind of recommendation.

GUARANTEED ANALYSIS { 5% Nitrogen.
3% Available Phosphoric Acid.
5% Actual Potash.

Our Blue Label Brand Tobacco Fertilizer

This fertilizer carries 1000 lbs. of C. S. Meal in every ton, put up for the grower who desires a large amount of meal under his tobacco crop. The phosphoric acid and potash are derived from the same high grade sources as our Complete Tobacco Fertilizer.

GUARANTEED ANALYSIS { 6% Nitrogen.
3% Available Phosphoric Acid.
6% Actual Potash.

O. & W. High-Grade Tobacco Starter

This high grade starter has been used with conspicuous success by some of our best growers in the valley. We recommend that it be applied after the first time hoeing. At that critical stage of growth an abundant supply of quickly available nitrogen enables the plant to get a vigorous start, overcome and grow away from any unfavorable condition that may exist.

Experience has taught us that the crop that grows quickly, vigorously and does not stop until it reaches maturity produces the best goods.

Apply about 500 lbs. per acre.

GUARANTEED ANALYSIS $\left\{ \begin{array}{l} 10\% \text{ Nitrogen.} \\ 3\% \text{ Available Phosphoric Acid.} \end{array} \right.$

O. & W. High Grade Tobacco Starter and Potash Compound

This formula with 5 per cent quickly soluble nitrogen and 15 per cent actual Potash should be used with C. S. Meal or Castor Pomace in growing the tobacco crop and when so used makes a complete fertilizer. The Nitrogen of C. S. Meal or Pomace is slow acting and on most lands a more quickly soluble form of Nitrogen is needed to start the crop. We recommend using 1000 to 1500 lbs. per acre with a ton of C. S. Meal or Pomace.

GUARANTEED ANALYSIS $\left\{ \begin{array}{l} 5\% \text{ Nitrogen.} \\ 4\% \text{ Available Phosphoric Acid.} \\ 15\% \text{ Actual Potash.} \end{array} \right.$

O. & W. Special Corn Fertilizer

This formula has been tested and tried in the cornfields of Connecticut and Rhode Island and produced excellent crops. It carries a high percentage of available phosphoric acid, necessary to promote hard grain and early maturity. It is also extensively used in market gardening.

GUARANTEED ANALYSIS $\left\{ \begin{array}{l} 3\% \text{ Nitrogen.} \\ 10\% \text{ Available Phosphoric Acid.} \\ 4\% \text{ Actual Potash.} \end{array} \right.$

O. & W. Complete Market Garden Fertilizer

This is one of our high grade special mixtures for use on Corn, Potato, Onion Crops, Market Garden and general purpose fertilizer.

The sources of plant food are such as are exceedingly available to the plant and best suited to promoting rapid and vigorous growth. Tested at our own farms we are able to speak authoritatively as to its merits. All growers will be repaid by using this special mixture on their Crop.

Our soils are well adapted to the culture of these Crops and to make them profitable as well, is an easy matter if the culture is supplemented and promoted by the use of our special fertilizer.

GUARANTEED ANALYSIS $\left\{ \begin{array}{l} 4\% \text{ Nitrogen.} \\ 8\% \text{ Available Phosphoric Acid.} \\ 4\% \text{ Actual Potash.} \end{array} \right.$

O. & W. Top Dressing and Grass Fertilizer

A complete fertilizer with all the essential elements for rapid and luxurious growth, carrying both soluble salts and organic material, it is suitable both for top dressing or permanent seeding down mixture.

GUARANTEED ANALYSIS { 8% Nitrogen.
6% Available Phosphoric Acid.
6% Actual Potash.

O. & W. High Grade Potato and Vegetable Fertilizer

This is a concentrated mixture running high in analysis in every ingredient, and as a formula, is extensively used in the potato growing sections of Maine. To produce large crops of potatoes you must feed heavily of Potash. This was thoroughly proven during the war, as even when Potash was extremely high and scarce some of the Maine potato growers paid the price for this ingredient and were well repaid by increased crop.

GUARANTEED ANALYSIS { 5% Nitrogen.
8% Available Phosphoric Acid.
7% Actual Potash.

O. & W. Potato and General Purpose Fertilizer

This formula should be used in growing potatoes. The 4% Nitrogen content makes it practically the same as our 5-(ammonia) 8-7 of previous years and most agronomists agree that this is a proper balance for the potato crop. This formula is also extensively used in market gardening.

GUARANTEED ANALYSIS { 4% Nitrogen.
8% Available Phosphoric Acid.
7% Actual Potash

O. & W. Potato and General Purpose Organic 4-8-7

This formula has a large proportion of the nitrogen derived from organic sources. We believe for potatoes and such crops as require the entire growing season to arrive at maturity, this organic form of nitrogen is very essential as it does not leach away with moisture but decomposes freeing the nitrogen slowly, carrying through and maturing the crop. If we can increase the yield, the slight extra cost is more than justified.

O. & W. Double Strength Fertilizer

A highly concentrated formula used principally in growing potatoes. Should be used at the rate of 1,000 to 1,200 lbs. per acre, being very careful that fertilizer does not come in contact with seed.

GUARANTEED ANALYSIS { 8% Nitrogen.
16% Available Phosphoric Acid.
14% Actual Potash.

We are now mixing Wilcox formulae, having 3 years ago purchased the mixed fertilizer business of the Wilcox Fertilizer Co., of Mystic, Conn. Wilcox fertilizers have always enjoyed a good reputation. It is our aim to maintain and enhance this reputation, making only such changes as recent scientific research has proved advantageous.

We offer the following Wilcox formulae:

Wilcox Corn Special

This is an old favorite, moderate in price, made of soluble materials, and producing fine crops.

GUARANTEED ANALYSIS { 3% Nitrogen.
10% Available Phosphoric Acid.
4% Actual Potash.

Wilcox Market Garden

This formula is deservedly popular in the great market garden section on Newport Island, Eastern Connecticut, Massachusetts and surrounding territory. Produces quick luxuriant growth and early maturity of vegetables.

GUARANTEED ANALYSIS { 4% Nitrogen.
8% Available Phosphoric Acid.
4% Actual Potash.

Wilcox Potato and General Purpose Fertilizer

Used extensively in growing potatoes and market garden truck, carrying a high percentage of potash needed in many crops.

GUARANTEED ANALYSIS { 4% Nitrogen.
8% Available Phosphoric Acid.
7% Actual Potash.

Wilcox Top Dresser

A standard mixture made of soluble materials for application to grass lands, used either as top dressing or seeding down.

GUARANTEED ANALYSIS { 8% Nitrogen.
6% Available Phosphoric Acid.
6% Actual Potash.

Important Notice—Free Delivery of Seeds

We Deliver, Transportation Paid in the 1st and 2nd Postal Zone, Vegetable Seeds by the packet, ounce, quarter-pound, pound.

On larger quantities purchaser pays transportation.

In making this Free Delivery offer we reserve the right to ship goods either by Parcel Post, Express or Freight.

We reserve the right to advance prices without notice should current conditions require it.

REMITTANCES

May be made by Express Money Order, P. O. Money Order or Check.

NOTE:—If cash or stamps are sent by mail, REGISTER THE LETTER, otherwise it travels at owner's risk.

If goods are wanted C. O. D., 25 per cent of the amount must accompany the order. Charges for returning the money will be collected on delivery.

In accordance with the universal custom of the Seed Trade, Olds & Whipple, Inc. give no warranty, express or implied, as to description, quality, productiveness, or any other matter, of any Seeds they send out, and they will not be in any way responsible for the crop.

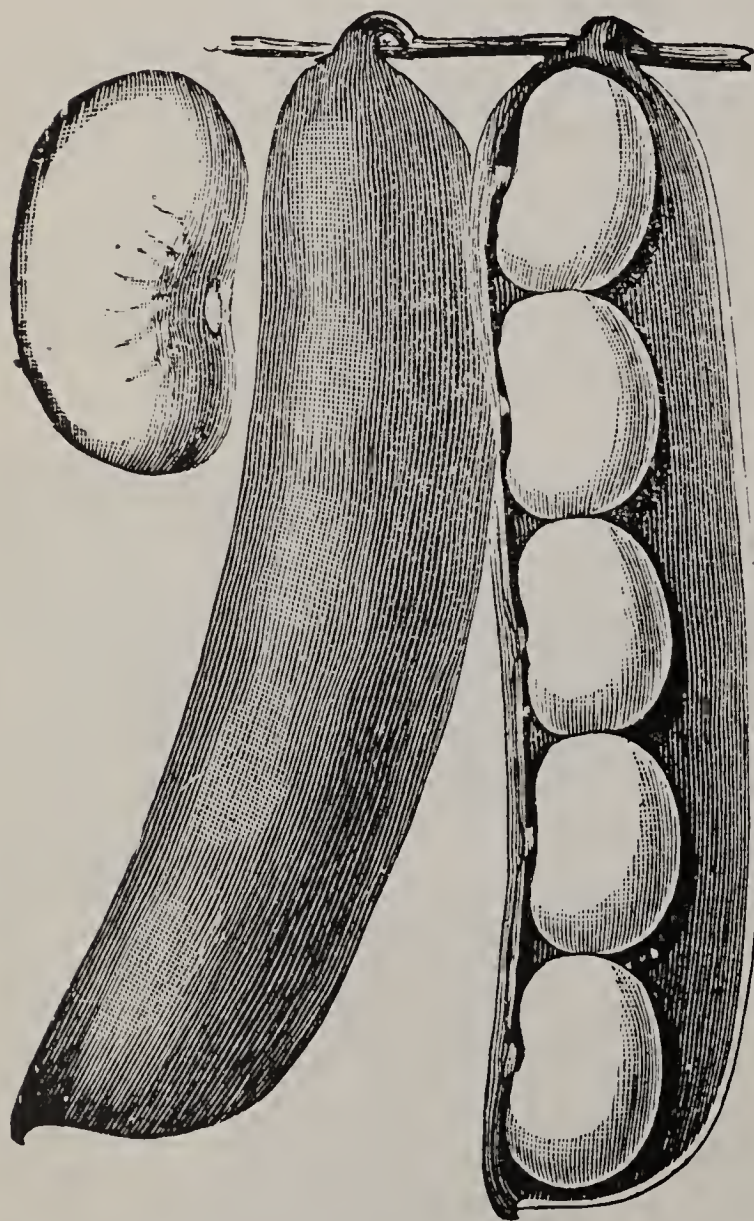


ASPARAGUS

An Asparagus bed may be made from one or two year old roots, planted in fall or spring. Plant the roots in rows four feet apart, leaving about twelve inches between plants in the row. Should be planted in trenches and gradually filled in as plants grow. Seeds may be sown in April in drills one foot apart and one inch deep. One ounce of seed will sow sixty feet of drill.

				Per Pkt.	Per $\frac{1}{4}$ lb.	Per lb.
Mary Washington (seed)	.	.	.	\$0.10	\$0.30	\$1.00
Mary Washington roots	.	.	.	1.50 per 100		

BEANS—Dwarf or Bush



To produce a regular succession of crops through the season, plant every two weeks, from about beginning of May to end of summer. Plant in rows 18 inches apart, two inches deep; cultivate only when soil is dry, as the scattering of earth on vines will cause them to rust. One quart will plant 100 feet of drill and one and one-half bushels for one acre.

While we exercise the greatest care to have all seeds pure and reliable, we do not give any warranty, express or implied, and will not be in any way responsible for the crop.

Burpee's Bush Lima.

				Per lb.	5 lb. lot Per lb.	15 to 100 lb. Per lb.
Burpee's Bush Lima.—A true bush form and immense cropper,	.	.	.	\$0.35	\$0.25	\$0.22
Fordhook Bush Lima.—	.	.	.	.40	.28	.25

	Per lb.	5 lb. lot Per lb.	15 to 100 lb. Per lb.
Improved Rust Proof, Golden Wax. —Early, flat, stringless pods,	\$0.25	\$0.20	\$0.15
Black Wax, Pencil Pod. —Very early, round thick pods, .	.30	.22	.15
Wardwell's Kidney Wax. —Early, flat long wax pods, .	.30	.25	.18
Black Valentine. —Stringless, long round green pod .	.30	.25	.17
Bountiful. —Flat Green pods, best stringless, .	.25	.20	.15
Burpee's Stringless. —Round Green pod early, . . . .	.25	.20	.15
Tendergreen. —New stringless, green pod . . . . .	.30	.22	.15
Horticultural Dwarf. —A superior shell bean, medium early . . . . .	.30	.22	.17
French Dwarf Horticultural. —Pod 6 to 7 in. very attractive	.30	.23	.18
Low's Champion. —Large green flat stringless pods, .	.30	.22	.17
White Kidney. —An excellent shell bean and for baking, green pod, . . . . .	.25	.20	.15
White Marrow. —A fine winter bean, . . . . .	.25	.20	.15
Red Kidney. —An excellent shell bean, similar to White Kidney, . . . . .	.25	.20	.15

BEANS—Pole

Plant in hills three to four feet apart, putting four or five beans in a hill, and leaving space in the center for the pole. One quart of limas will plant 100 hills. One quart of the smaller seeded sorts will plant about 200 hills.

	Per lb.	5 lb. lot Per lb.	15 to 100 lb. Per lb.
Extra Leviathan Lima. —An early and large variety, .	\$0.35	\$0.27	\$0.20
Lima, Large White. —An old and choice variety, . . .	.35	.27	.20
Lima, King of the Garden. —Large and extremely productive, . . . . .	.35	.27	.20
Horticultural Cranberry. —Excellent quality, . . . .	.30	.27	.20
Italian Horticultural. —Long pod, bright color. . . .	.35	.30	.25
Worcester or King Horticultural . . . . .	.35	.30	.25
Kentucky Wonder. —Green pod, very prolific, . . . .	.25	.20	.18
Kentucky Wonder. —Wax or yellow podded, very prolific, .	.30	.23	.20

BEETS—Table Varieties

Sow from April to beginning of July, in drills about one foot apart, covering seeds about one inch. Thin the young plants when suitable size for greens to six or eight inches apart. One ounce sows 50 feet of drill, 5 to 6 pounds to one acre.

	Per pkt.	Per oz.	Per lb.
Quantity discount, 10 lbs. or more 10¢ lb.			
Early Wonder. —Deep red, round, very popular with market gardeners,	\$0.05	\$0.15	\$1.00
Crosby's Egyptian. —Early smooth and fine quality, .	.05	.15	1.00
Edman's Extra Early. —One of the best, . . . . .	.05	.15	.80

	Per pkt.	Per oz.	Per lb.
Early Eclipse. —Very early, dark red color,	\$0.05	\$0.15	\$0.80
Early Egyptian. —Good color, a smooth turnip beet, . . . . .	.05	.15	1.00
Detroit Dark Red. —Smooth, bright red, good keeper, . . . . .	.05	.15	1.00



Dewing's Early Blood Turnip.

Dewing's Early Blood Turnip. —A standard variety of excellent quality, . . . . .	.05	.15	.75
Long Smooth Blood. —An excellent late variety for winter use, . . . . .	.05	.15	.90
Swiss Chard. —Fine for greens, cultivated solely for leaves, . . . . .	.05	.15	.90

MANGOLD WURZEL

Sow in May or June in rows, 18 inches to 2 feet apart, and thin to 8 inches in the row. The value of these for stock feeding cannot be over estimated. Sow 6 to 8 pounds to one acre.

Quantity discount, 5 lbs. or more 10¢ lb.	Per oz.	Per ½ lb	Per lb.
Carter's Mammoth Long Red. —A heavy cropper, one of the best,	\$0.10	\$0.20	\$0.60
Norbiton Giant Long Red. —Very productive, . . . . .	.10	.20	.60
Yellow Globe. —Large globular formed roots, good for shallow soils. . . . .	.10	.20	.60
Giant Half Sugar Rose —shape similar to Norbiton Giant, . . . . .	.10	.20	.60
Golden Tankard. —A half-long variety of bright yellow color, . . . . .	.10	.20	.60
White Sugar, Lane's Improved. —A well known variety, . . . . .	.10	.20	.60

BROCCOLI

A vegetable resembling Cauliflower but much hardier. Requires the same general culture as cabbage. One ounce of seed produces about 1,500 plants.

	Per pkt.	Per oz.	Per ¼ lb.
Purple Cape. —Medium size heads, hardy,	\$0.15	\$0.50	\$1.50
White Cape. —Like Purple Cape, but of cream white color, . . . . .	.20	.65	1.75
Early Green Italian —or Calabrese, . . . . .	.15	.50	1.50
Italian Broccoli Rape or Senaps for bunching, . . . . .	.10	.25	.75

BRUSSELS SPROUTS

A species of cabbage family and cultivated in about same manner. One ounce of seed will produce about 1,200 plants.

	Per pkt.	Per oz.	Per ¼ lb.
O. & W.'S Best	\$0.10	\$0.35	\$1.00

CABBAGE—Early



All Seasons.

All the Cabbage family require rich, deep, well-drained soil. For the early kinds, plant in rows 30 inches apart and 16 inches between the plants. For the late varieties, three feet between the rows and two feet between the plants. For very early use, sow in January or February in hot-beds. Set out when plants are strong enough into other hot-beds or set in cold frames in March. Transplant when danger from frost is past to open ground. The late, or winter crop seed can be sown in May and the plants set out when large enough.

To destroy the green worm that attacks the cabbage plant, use a solution of one ounce of saltpetre in three gallons of water. One ounce of seed will produce about 3,000 plants, one-quarter pound for one acre.

	Per pkt.	Per oz.	Per lb.
Golden Acre.—Extra early Copenhagen type,	\$0.10	\$0.30	\$3.75
Copenhagen Market.—Extra early round hard head, . . . . .	.10	.25	2.75
Early Jersey Wakefield.—A fine, very early medium sized market favorite, . . . . .	.10	.25	2.75
Early Summer.—A superior, second early, heads large and solid, . . . . .	.10	.25	2.75
Early Flat Dutch.—A fine early variety for family use, . . . . .	.10	.25	2.75
All Seasons.—Medium early, very large and sure header, . . . . .	.10	.25	2.75

CABBAGE—Late Varieties

	Per pkt.	Per oz.	Per lb.
O. & W. Premium Flat Dutch. —An extra fine selection of the large late Flat Dutch,	\$0.10	\$0.25	\$2.75
Improved American Drumhead Savoy. —Large, fine quality, excellent winter cabbage, . . . . .	.10	.25	3.00
Stone Mason Drumhead. —A large round solid variety, . . . . .	.10	.25	2.75
Red Dutch Drumhead. —Fine solid dark red heads, . . . . .	.10	.25	2.75
Hollander, or Danish. —A superior winter variety, heads round, very hard, fine and tender, . . . . .	.10	.25	2.75
Sure Head. —Large growing, fine heading, solid and large, . . . . .	.10	.25	2.75
Chinese. —Select strain, . . . . .	.10	.30	4.00
Chinese Chihili. —Long slender, . . . . .	.10	.30	4.00



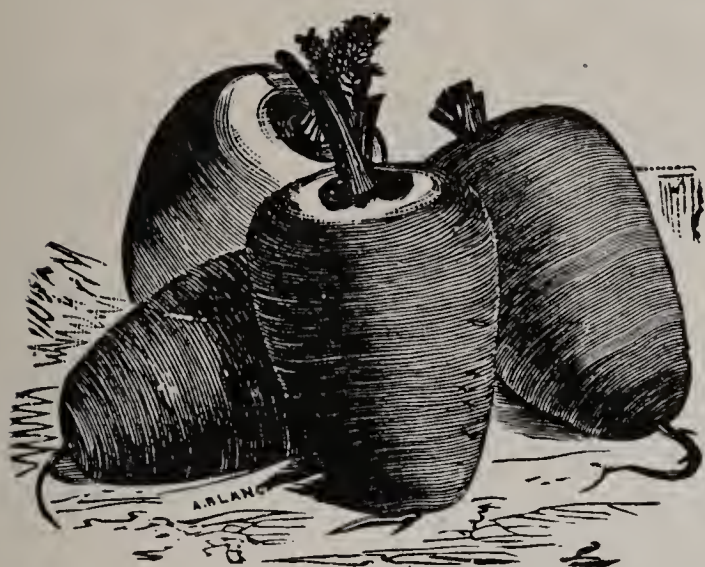
Paris Golden.

CELERY

Sow seed about the first of April in hot-bed or cold frame. Transplant four inches apart, when three inches high in rich soil; water and protect until well rooted, then transplant into rows 5 or 6 feet apart either on surface or in trenches 8 inches deep. Set the plants 10 or 12 inches apart. To blanch draw earth around the plants from time to time.

One ounce of seed will give about 4,000 plants.

	Per pkt.	Per oz.	Per lb.
Paris Golden, Self Blanching, (French.) —An early golden variety, very popular,	\$0.20	\$0.75	\$ 9.00
Boston Market. —One of the best varieties in cultivation, . . . . .	.15	.25	3.00
Celeriac. —Turnip rooted, used for salads and soups, . . . . .	.15	.25	3.00
White Plume. —Easily bleached, usually solid and of a pleasing nutty flavor, . . . . .	.15	.30	3.00
Golden Plume. —Popular Golden self-blanching, . . . . .	.20	.75	9.00
Winter Queen. —One of the best winter varieties, . . . . .	.10	.25	3.00
Giant Pascal. —Second, early crisp, fine quality, . . . . .	.10	.25	3.00
Easy Blanching. —White, solid, easily bleached, . . . . .	.15	.35	4.00



CARROT

Carrots thrive best in rather light loam; soil should be well cultivated and well fertilized. Plant in rows 14 inches apart, and thin plants to 3 to 5 inches in the rows. Plant from the middle of April to the middle of May.

One ounce will sow 100 feet of drill. 3 to 4 pounds to one acre.

Quantity discount, 5 lbs. or more 10¢ lb.

	Per pkt.	Per oz.	Per lb.
Early Half Long Nantes.—Stump-rooted, coreless, red color,	\$ 0.05	\$0.15	\$1.25
Chantenay.—A half-long, one of the finest for table use, . . . . .	.05	.15	1.25
Danvers Half Long.—A most desirable variety, great keeper, . . . . .	.05	.15	1.25
Hutchinson.—Large stump rooted, selected stock, . . . . .	.10	.25	2.25
Improved Long Orange.—A large long rooted variety, for stock purposes, . . . . .	.05	.15	.90
White Belgian.—Large, white, productive, for stock, . . . . .	.05	.15	.75

CAULIFLOWER

Is one of the most delicious varieties of the Cabbage family. Requires a rich deep soil, a low moist situation being desirable. Plants should be set in rows about 2 feet apart and 18 inches between the plants.

One ounce will sow a bed of 40 square feet and produce about 2,000 plants.

	Per ¼ oz.	Per oz.	Per lb.
Early Snowball.—This ranks extremely high among the early varieties, it is a reliable header of good size and of rich white color,	\$0.60	\$2.00	\$25.00.
Erfurt Early Dwarf.—A good variety, . . . . .	.50	1.50	20.00
Early Paris.—A standard early variety, . . . . .	.50	1.25	12.00
Danish Giant or Dry Weather.—A large second early variety, . . . . .	.60	2.00	25.00.

CORN—Field

West Branch Sweepstakes.—Big-eared Dent, a popular ensilage variety

Eureka.—A well known ensilage variety of White Corn. Very leafy, of extra large growth, and we believe will produce more tons of silage than any other variety. For Ensilage only,

Leaming's Early Dent.—A very popular Dent Corn, grown for both grain and Ensilage. This variety will mature in this latitude,

Early Yellow Dent. — Connecticut grown, a dent corn that will mature in this latitude,

Longfellow.—Yellow flint corn, a well and favorably known variety, large long ears

Improved 8 Row Yellow Flint.—Earlier than Longfellow

at market prices.

CORN—Sweet

Requires a rich warm soil. For early varieties plant when ground has become well warmed ; successive plantings may be continued until July. Plant in hills from 3 to 3½ feet apart, according to the height of variety.

One quart will plant 200 hills ; 8 quarts for one acre in hills.

	Per lb.	5 lb. lot Per lb.	15 to 100 lb. Per lb.
Extra Early Golden —10 days earlier than Golden Bantam, best extra early yellow,	\$0.25	\$0.22	\$0.16
Golden Sunshine.—Week earlier than Golden Bantam, . . . . .	.25	.22	.16
Columbia.—Earliest white variety, . . . . .	.25	.22	.16
Whipple's Yellow.—Early as golden bantam but much larger, fine quality, . . . . .	.25	.22	.15
Whipple's White.—Early and good quality, . . . . .	.25	.22	.15
Golden Bantam.—A yellow sweet corn, extra early and extra hardy, very tender and sweet. . . . .	.25	.22	.15
Golden Giant.—Cross between Golden Bantam and Howling Mob, . . . . .	.25	.22	.15



Whipple's Yellow.

Kingscrost Golden Bantam.—Disease resistant, . . . . .	.45	.42	.25
Howling Mob.—Excellent quality early large ears, . . . . .	.25	.22	.15
Golden Cross Bantam.—6 days later than regular bantam, 12-rowed, . . . . .	.55	.50	.45
Bantam Evergreen.—Yellow, medium early, large size, . . . . .	.25	.23	.16
Evergreen.—A standard late variety, . . . . .	.25	.22	.15
Long Island Beauty.—Large late and one of the best, . . . . .	.25	.22	.15
Mammoth Sugar.—Extra large sweet variety, of good quality, . . . . .	.25	.22	.15
Black Mexican.—An early, tender corn of fine flavor, . . . . .	.35	.25	.20

Use O. & W. Complete Market Garden Fertilizer for Corn

CRESS

To be planted in drills and sown quite thickly, on good rich ground, in early spring.

One ounce of seed will plant 100 feet of drill.

	Per pkt.	Per oz.	Per lb.
Curled.—	\$0.10	\$0.15	\$0.75

CUCUMBER

First planting should be made in May when ground is dry and warm, in hills about 4 feet apart; thin out to 3 to 4 plants to the hill when established. For pickles plant during the last two weeks in June.

One ounce will plant 50 hills; two pounds for one acre.



Improved Early White Spine.

	Per oz.	Per ¼ lb.	Per lb.
Early Cluster. —Bears in clusters, early and productive,	\$0.15	\$0.35	\$1.00
Snow Pickling. —One of the best pickling,	.15	.35	1.00
Green Prolific. —The very best pickling sort,	.15	.35	1.00
Boston Pickling. —Produces an abundant crop of dark green color,	.15	.35	1.00
Improved Early White Spine. —A standard variety of uniform good size and color,	.15	.35	1.00
Early Fortune. —Excellent for slicing or Pickling,	.15	.45	1.25
Davis Perfect. —Dark green, good length, popular,	.15	.45	1.25
Longfellow Dark Green. —Largest slicing very attractive market sort	.20	.50	1.50
Improved Long Green. —A large and late variety,	.15	.45	1.25

DANDELION

Sow in May in drills 12 inches apart, covering seeds about one-half inch deep. Cultivate to keep down weeds during summer and the following spring leaves will be suitable for cutting. Must be covered in winter to protect from frost.

One ounce for 100 feet of drill. One pound for one acre.

	Per pkt.	Per oz.	Per lb.
Improved Thick-Leaved. —Standard sort, very productive,	\$0.15	\$0.50	\$5.00.
French Garden. —	.10	.25	3.00

DILL

	Per pkt.	Per oz.	Per lb.
Mammoth or Long Island. —	\$0.05	\$0.15	\$0.75

EGG PLANT

Plant the seed in hot beds early in spring. Transplant when two inches high into another bed, or small pots. Plant in garden when weather is settled and warm. Should be placed about 3 feet apart, and well watered for 2 or 3 days, until they show signs of being rooted.

	Per pkt.	Per oz.	Per ¼ lb.
New York Improved Purple. —The leading market variety, excellent and very productive.	\$0.10	\$0.40	\$1.25
Black Beauty. —Early, fruit black, round and solid,	.10	.40	1.25

ENDIVE

For early use, sow as soon as ground can be worked in spring in drills fifteen inches apart; thin plants to six inches in the row. Any ordinary soil will do, but a moist place is preferred. To blanch the leaves, gather them together when dry and tie with matting or cover with ordinary flower pots inverted.

One ounce will produce about 3000 plants.

			Per pkt.	Per oz.	Per lb.
Green Curled.—A standard sort,	.	.	\$0.10	\$0.15	\$1.25
Moss Curled.—Very ornamental,	.	.	.10	.15	1.25
Batavia Escarolle.—	.	.	.10	.15	1.25

KALE or German Greens

Plant the larger varieties in hills two by three feet apart and thin to one plant to the hill. Requires deep, rich soil. Set out plants in June and treat in same manner as for cabbage.

One ounce will produce 2,000 plants.

			Per pkt.	Per oz.	Per lb.
Green Curled Scotch.—Leaves of bright green, very tender					
and closely curled,	.	.	\$0.10	\$0.15	\$1.00
German Greens.—To be sown in fall for spring use,	.	.	.10	.15	.75

KOHL RABI

An intermediate vegetable between the cabbage and turnip. Prepare as for cabbage. Sow in April in rows 18 inches apart and thin out to 8 inches apart.

One ounce gives 3,000 plants.

			Per pkt.	Per oz.	Per lb.
Early White Vienna.—A standard early,	.	.	\$0.10	\$0.20	\$1.75
Early Purple Vienna.—Very large and productive,	.	.	.10	.20	1.75

LEEK

Sow the seeds in April and transplant in July to rows 15 inches apart and 8 inches between plants.

One ounce will grow 1,000 plants.

			Per pkt.	Per oz.	Per lb.
American Flag.—A hardy and profitable sort, excellent					
for winter use,	.	.	\$0.10	\$0.20	\$1.75

While we exercise the greatest care to have all seeds pure and reliable, we do not give any warranty, express or implied, and will not be in any way responsible for the crop.



Boston Market.

LETTUCE

Lettuce needs a rich and moist soil, should be sown in rows about 12 inches apart and the plants thinned to 10 inches apart for the heading varieties. When not grown for head they may be sown broadcast. The more rapid the growth, the better the quality.

One ounce for 3,000 plants.

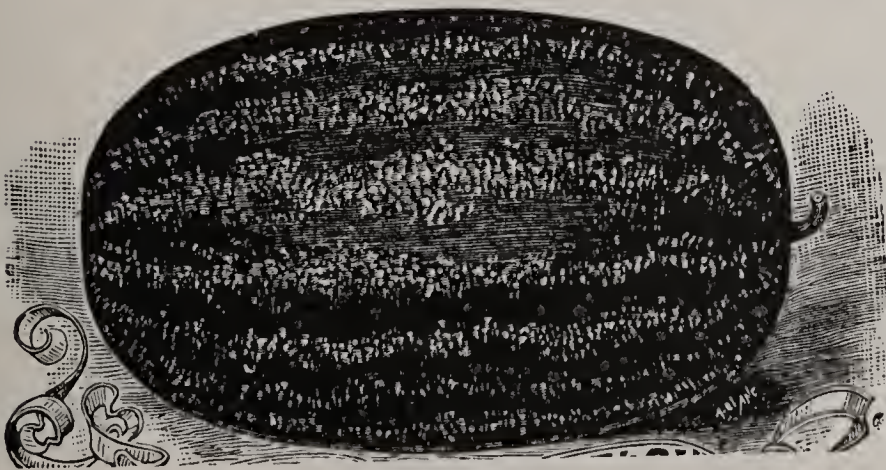
	Per pkt.	Per oz.	Per lb.
May King.—Medium size, early, good heading, a popular sort,	\$0.10	\$0.20	\$1.50
Early Curled Silesia.—Sweet, early, good variety, . . . . .	.10	.20	1.50
Early Simpson.—Early, compact mass of tender leaves, . . . . .	.10	.20	1.50
Black-Seeded Simpson.—Large light-colored head variety, . . . . .	.10	.20	1.50
Hanson.—Large, solid, crisp head, one of the best outdoor sorts, . . . . .	.10	.20	1.50
True Iceberg.—Light green heads, . . . . .	.10	.20	1.50
Tennis-Ball Black Seeded.—Excellent for early large heads, . . . . .	.10	.20	1.50
Tomhannock.—One of the best varieties for broadcast cultivation, leaves slightly bronzed, . . . . .	.10	.20	1.50
Crisp as Ice. (Bronzed) a fine bronze leaf lettuce, . . . . .	.10	.20	1.50
New York Number 12.—Commonly called Iceberg. . . . .	.10	.25	2.00
Big Boston.—A head lettuce, for forcing or open culture, . . . . .	.10	.20	1.50
White Boston.—Commonly called green leaved Big Boston . . . . .	.10	.20	1.50
Cos or Romaine.— . . . . .	.10	.20	1.50

MUSTARD

Sow from April to June in drills one foot apart and cover seed lightly. Used principally for salads.

	Per oz.	Per ¼ lb.	Per lb.
White or English.—For salad or medicinal purposes,	\$0.10	\$0.20	\$0.45
Brown.—More pungent than white, . . . . .	.10	.25	.75

MELON—Water



Ice Cream.

A warm light sandy loam preferred. Being tender should not be planted before middle of May. Plant in hills 5 to 6 feet apart each way for the musk varieties and 8 feet apart for the water. Cover seeds about one-half inch deep and when well started thin out to 3 plants in a hill. One ounce will plant about 15 hills; 4 pounds to the acre.

	Per pkt.	Per oz.	Per lb.
Cole's Early.—Round, striped, delicious flavor, red flesh, good size,	\$0.10	\$0.15	\$1.00

	Per pkt.	Per oz.	Per lb.
Kleckley's Sweet. —Oblong in form, dark green, thin rimmed, flesh bright scarlet, white seed, sweetest of all,	\$0.10	\$0.15	\$1.00
Mountain Sweet. —An old standard variety, early and solid, . . . . .	.10	.15	1.00
Phinney's Early. —Early, reliable, red fleshed, productive, . . . . .	.10	.15	1.00
Ice Cream. —White seeds, medium size, solid fine flavor, one of the most popular varieties grown, . . . . .	.10	.15	1.00
Kolb's Gem. —Flesh bright red, almost round, grows large, very choice, . . . . .	.10	.15	1.00
Citron for Preserves.— . . . . .	.10	.15	1.00



Rocky Ford Melon.

MELON—Musk

One ounce will plant 80 hills; 2 to 3 pounds for one acre.

While we exercise the greatest care to have all seeds pure and reliable, we do not give any warranty, express or implied, and will not be in any way responsible for the crop.

	Per pkt.	Per oz.	Per lb.
Honey Rock. —Round heavily netted thick salmon flesh	\$0.10	\$0.20	\$1.50
Hackensack. —Large, productive and good flavor, green fleshed, . . . . .	.10	.15	\$1.25
Rocky Ford. —A very popular variety, flesh light green, sweet and delicate flavor, . . . . .	.10	.15	1.25
Bender's Surprise. —Large, slightly oval, good quality, pink flesh, . . . . .	.10	.15	1.20
Hearts of Gold. —Round medium early, pink flesh, . . . . .	.10	.15	1.25
Miller's Cream. —Thick meated and salmon colored flesh, delicious, . . . . .	.10	.15	1.25
Paul Rose. —An extra quality, salmon flesh, medium size, . . . . .	.10	.15	1.25
Emerald Gem. —Small, but prolific, yellow meated, superior quality, . . . . .	.10	.15	1.25
"Lake Champlain." —Improved Emerald Gem, . . . . .	.10	.15	1.25
Ozage, Salmon Fleshed. —A deliciously sweet melon of fine flavor, . . . . .	.10	.15	1.25
Delicious. —A very desirable early type of Bender's Surprise, . . . . .	.10	.20	1.50

NASTURTIUM

Cultivated for both use and ornament. Young seeds may be used as capers and leaves for salad purposes. The beautiful flowers, blooming freely all summer add a charm to the garden and lawn. Plant in May.

	Per pkt.	Per oz.	Per ¼ lb.
Tall. —An ornamental climber,	\$0.05	\$0.15	\$0.35
Dwarf. —Fine for borders and beds, . . . . .	.05	.15	.35

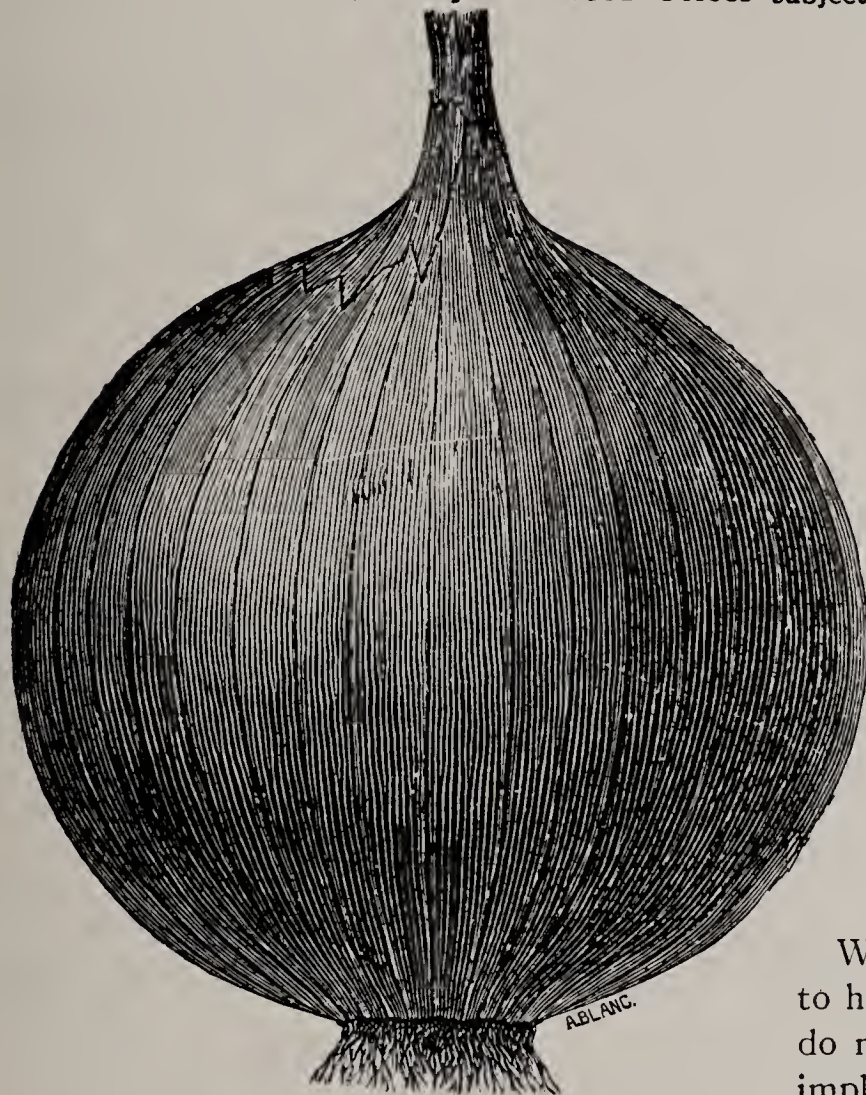
OKRA

Plant in rows 2 feet apart, thinning plants to 1 foot apart in the row.

	Per pkt.	Per oz.	Per lb.
Dwarf Green.—Early and productive,	\$0.10	\$0.15	\$0.50

ONION

(Strictly new seed—Prices subject to change.)



Southport Red Globe.

O. & W. Complete Market Garden Fertilizer.

A fertilizer that will produce remarkable crops. Used by many of the best growers in Massachusetts and Connecticut.

While we exercise the greatest care to have all seeds pure and reliable, we do not give any warranty, express or implied, and will not be in any way responsible for the crop.

The onion thrives best in deep, loamy soil, well fertilized. Sow the seeds thinly in drills 1 foot apart. Cover seeds about $\frac{1}{4}$ inch, roll and tread soil down solidly. When 3 inches high, thin out to 3 inches apart. Cultivate well and keep out weeds.

One ounce seed will sow 100 feet of drill. Six pounds for one acre.

Per oz. Per $\frac{1}{4}$ lb. Per lb.

Wethersfield Large Red.—A large yielder, excellent to keep,	\$0.20	\$0.50	\$1.50
Southport Red Globe.—Finest large red sort,	.20	.50	1.60
Southport Yellow Globe.—Handsome and late variety,	.20	.50	1.65
Southport White Globe.—Early, mild flavored, large, not a good keeper,	.25	.75	2.25
Yellow Globe Danvers.—One of the superior yellow globe varieties,	.20	.50	1.65
White Portugal.—Excellent for pickling, should be sown thick,	.25	.75	2.25
Prize Taker.—Yellow skin, white flesh, good cropper, large size,	.20	.50	1.75
Japanese or Ebenezer.—(For growing sets),	.20	.50	1.75

ONION SETS

Should be planted as early as the ground can be worked in rows 12 inches apart. Set each about 3 inches apart. When onions are grown from sets they can be used in the green state in June, or will ripen by July.

	Per lb.	4 lbs.	8 lbs.			
Red .	\$0.30	\$1.00	1.65	.	.	} Larger quantities. at market prices.
White .	.35	1.20	2.25	.	.	
Ebenezer .	.30	1.00	1.65	.	.	

PARSLEY

Sow early in spring in drills 1 foot apart, covering lightly; thin out the plants to 3 to 4 inches apart; used for flavoring and garnishing. A single row forms a good edging for flower-beds or walks.

	Per pkt.	Per oz.	Per lb.
Moss Curled.—Very ornamental and productive, .	\$0.05	\$0.15	\$0.90
Curled, or Doubled.—A most beautiful variety, moss-like leaves of handsome bright green color, .	.05	.15	.90
“Plain” Leaved.—(Not curled), .	.05	.15	.85
Hamburg.—Turnip rooted, .	.05	.15	.90

PARSNIP

Make the soil very fine and plant the seed very early, in rows eighteen inches apart, thinning plants to three or five inches in the rows; seeds should be covered about one-half inch deep.

Parsnips, aside from table use, have great value for stock-feeding purposes. Are improved by allowing to remain in open ground through the winter.

One ounce to 150 feet of drill; five pounds for one acre.

	Per pkt.	Per oz.	Per lb.
Ideal Hollow Crown.—A great cropper, tender and sweet, .	\$0.05	\$0.15	\$1.00
Long Smooth White.—One of the best for general cultivation, .	.05	.15	.85

PEAS



The wrinkled varieties, while the sweetest of all peas, are more liable to rot, being tender, and need to be planted thicker and later than the round, hard sorts. Soil needs to be well manured. Have the dwarf varieties in rows two and one-half feet apart; those kinds growing two to three feet high, in rows three feet apart, and the tallest in rows four feet apart. The smooth varieties may be sown as soon as ground can be worked; the wrinkled sorts when soil is well warmed.

One quart to 100 feet of drill; one and one-half bushels to an acre.

	Per lb.	5 lb. lot Per lb.	15 to 100 lb. Per lb.
Carter's Premium Gem.			
East Hartford Extra Early.—True stock. 2½ feet, best early variety in the market, smooth variety	\$0.30	\$0.23	\$0.16

	Per lb.	5 lb. Lot Per lb.	15 lb. Lot Per lb.
Gradus, or Prosperity. —An extra early wrinkled pea, very large pods, of magnificent quality,	\$0.30	\$0.26	\$0.20
Nott's Excelsior. —A wrinkled dwarf, of excellent variety, early, . . . . .	.30	.26	.20
Sutton's Excelsior. —Similar to Nott's Excelsior, but producing larger and more abundant pods, . . . . .	.30	.26	.20
Daisy or Dwarf Telephone. —Dwarf habit, wrinkled, large pods, second early, . . . . .	.30	.26	.20
Thomas Laxton. —Of similar growth to Gradus, a few days later, pods are deep rich green. In the judgment of many the Thomas Laxton is even sweeter and finer flavor than Gradus, . . . . .	.30	.26	.20
Telephone. —Four feet high, large peas of rich, sugary flavor, . . . . .	.30	.24	.18
Champion of England. —An old standard variety, late, five feet high, . . . . .	.30	.23	.17
Laxtonian. —Large dark green pod, best early dwarf,30	.26	.20
Canada Field. —For stock purposes (60lbs. to bushel) at market price.			

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PEPPER

Should be started in hot beds, and transplanted into open ground by end of May; set in rows eighteen inches apart and plants about twelve inches apart in the rows.

One ounce of seed will produce about 3,000 plants.

	Per oz.	Per ¼ lb.	Per lb
Sweet Mountain. —Largely grown for both market and home use,	\$0.40	\$1.20	\$4.00
Bull Nose. —This has long been the standard hot sort, . . . . .	.40	1.30	4.50
Ruby King. —Most popular large red pepper in cultivation, . . . . .	.40	1.20	4.00
Large Squash. —Thick fleshed, early hot variety, . . . . .	.40	1.30	4.50
Long Red Cayenne. —The true Cayenne, hot and pungent, . . . . .	.40	1.40	5.00
Large Red Cherry. —A smooth and round variety; very productive, . . . . .	.40	1.40	5.00
World Beater. —Large mild, very prolific, . . . . .	.40	1.20	4.00
Chinese Giant. —Large mild,50	1.80	6.00
California Wonder. —(New) Large size, thick shell, mild,40	1.40	5.00

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PUMPKIN

To be cultivated in same manner as squash.

	Per oz.	Per ¼ lb.	Per lb.
Small Yellow Sugar. —A handsome prolific variety, good keeper, best for pies,	\$0.15	\$0.35	\$0.90
Large Cheese. —Very large and good keeping variety, . . . . .	.15	.35	.85
Connecticut Yellow Field. —Grown largely for stock purposes, . . . . .	.15	.35	.90

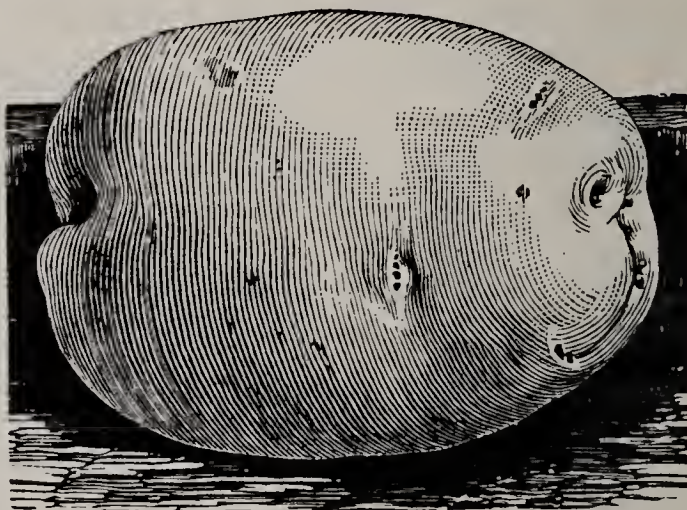
POTATOES— NORTHERN GROWN—MAINE AND VERMONT

We Offer Only Certified Seed

Use 16 to 20 bushels, or 6 barrels per acre.

Here in Conn. nearly all markets demand Green Mountains for winter stock. This is the variety that agricultural authorities are always trying to improve and we believe it to be the best variety grown.

Irish Cobbler
Green Mountain
(Improved)
at Lowest Market
Prices.



Deep Scarlet Turnip.

Quantity discount, 5 lbs. or more 10¢ lb.

Early Scarlet Turnip.—Round red with white tip,

RADISH

For early use sow in spring as soon as ground can be worked. Sow in drills six to ten inches apart and thin out to one inch apart in the rows; as the roots are more tender and brittle when grown quickly, a rich light soil is preferred. For a succession sow every two weeks.

One ounce will sow 100 feet of drill; eight pounds for one acre.

Per pkt.	Per oz.	Per lb.
\$0.05	\$0.10	\$0.75

	Per pkt.	Per oz.	Per lb.
Deep Scarlet Turnip.—An all red standard variety,	\$0.05	\$0.10	\$0.75
Early Long Scarlet, Short Top.—The standard early long variety, . . . . .	.05	.10	.75
French Breakfast.—Most popular variety, of olive shape, red with white tip, quick growing, . . . . .	.05	.10	.75
Scarlet Globe.—One of the best; quite early, very crisp, . . . . .	.05	.10	.80
White Turnip.—For summer and winter use, . . . . .	.05	.10	.80
Black Spanish Long.—Black skin, white flesh—a winter variety, . . . . .	.05	.10	.80
Round Black Spanish.—The favorite German winter radish, . . . . .	.05	.10	.80
Rose Color China Winter.—Grows large and tender, good for winter use, . . . . .	.05	.10	.80
Long White Icicle.—Extremely early, . . . . .	.05	.10	.80

RHUBARB

Propagate from roots in richly prepared soil. Plants should be set five feet apart.

Victoria Giant— \$0.25 a root

SALSIFY. or Vegetable Oyster

Sow early in spring in light rich soil in drills fourteen inches apart and thin out to three inches apart in the row. The roots will be ready for use in October. When cooked the flavor resembles the oyster.

	Per pkt.	Per oz.	Per lb.
Sandwich Island Mammoth.—This variety grows to an unusually large size, roots tender and good flavor,	\$0.10	\$0.25	\$2.00

SPINACH

For very early spring use sow in August, for summer use sow in early spring, in drills about ten or twelve inches apart, covering the seed one inch deep. To obtain a succession sow at intervals of two weeks through the season. One ounce to 100 feet of drill, 10 pounds to one acre.

	Per lb.	5 to 15 lb. Per lb.
Round Thick Leaf.—Produces dark thick leaves, somewhat crumpled, . . . . .	.40	.25
Large Viroflay.—Grows extra large size, reselected, . . . . .	.40	.25
Princess Juliana.—Improved long season one of the best summer spinach, . . . . .	.40	.27
King of Denmark.—Summer spinach, . . . . .	.40	.27
New Zealand.—A very productive spreading plant, . . . . .	.80	.65
Nobel Giant Leaved . . . . .	.40	.27
Savoy Leaved Long Standing.—For summer sowing, . . . . .	.40	.27
Savoy Leaved Blight Resisting—Good only for fall sowing . . . . .	.40	.29
Old Dominion.—New long standing, . . . . .	.50	.35

Ask for prices in larger quantities.

SQUASH

Requires rich, warm soil. Plant in hills nine to ten feet apart for running varieties, and five or six feet apart for bush sorts. Leave two or three plants to a hill. Cultivate frequently.

One ounce will sow twenty to forty hills; two to four lbs. per acre.



Summer Crookneck.

	Per oz.	Per ¼ lb.	Per lb.
Giant Summer Straightneck. —	\$0.15	\$0.50	\$1.50
Early Summer Crookneck. —The finest bush variety, . . . . .	.15	.35	1.00
Giant Summer Crookneck. —Larger than the early summer, . . . . .	.15	.40	1.20
Early White Bush Scallop. —Matures early and bears continuously, . . . . .	.15	.35	1.00



Hubbard Squash.

Hubbard. —The well known and most popular winter squash, . . . . .	.15	.45	1.30
Boston Marrow. —A bright orange colored squash for autumn, very productive, . . . . .	.15	.35	1.00
Mammoth Chili. —Extra large, grows upwards 100 pounds at times, . . . . .	.15	.50	1.50
Golden Hubbard. —Similar to the standard Hubbard but smaller and earlier and of a golden red color, . . . . .	.15	.45	1.30
Cocozelle. —Compact bush growth, fruit oblong, foot or more in length, skin dark green with stripe, . . . . .	.15	.45	1.30
Blue Hubbard. —Popular variety, . . . . .	.15	.50	1.50
Table Queen. —Fine for baking, . . . . .	.20	.55	1.65
Golden Delicious. —A most attractive bright orange variety . . . . .	.15	.50	1.50

TOMATO



Bonnie Best.

Sow the seed in March or April in hot bed. Transplant when plants are five inches high to open ground, after danger from frost has passed. Should be set four feet apart each way, on mounds of earth, to allow foliage to open and sun to reach the fruit.

While we exercise the greatest care to have all seeds pure and reliable, we do not give any warranty, express or implied, and will not be in any way responsible for the crop.

	Per pkt.	Per oz.	Per ¼ lb.
Spark's Earliana.—The earliest large red grown, exceedingly productive,	\$0.10	\$0.30	\$1.00
Bonnie Best.—Very early, vigorous grower, smooth, brilliant, scarlet fruit, very prolific, . . . . .	.10	.30	1.00
Marglobe.—(New) Midseason globe shaped scarlet, . . . . .	.10	.30	1.00
Livingston's New Stone.—Large, smooth, solid, scarlet color, . . . . .	.10	.25	.85
Acme.—A standard variety, round, bright pink in color, . . . . .	.10	.30	1.00
Ponderosa.—Largest variety grown, . . . . .	.15	.50	1.75
New Dwarf Champion.—Most popular of dwarf varieties, fruit deep purplish red, . . . . .	.10	.40	1.35
Yellow Plum.—Small, elegant, fine for preserves, . . . . .	.15	.60	2.00

TURNIP

For early varieties sow as soon as the ground can be worked in spring.
For fall and winter use, seed should be sown from the middle of July to middle of August, seed generally sown broadcast, using one pound to the acre.



Early Flat Dutch.

	Per oz.	Per ¼ lb.	Per lb.
Early Purple Top Milan.—Finest early,	\$0.10	\$0.25	\$0.85
Early Flat Dutch White.—A popular market variety, . . . . .	.10	.25	.65
Purple Top Strap Leaf.—One of the standard flat varieties, . . . . .	.10	.25	.65
Yellow Globe.—Fine for table use, fall and winter, . . . . .	.10	.25	.65

Quantity discount, 5 lbs. or more 10¢ lb.

	Per oz.	Per ¼ lb.	Per lb.
Golden Ball.—Very tender, fine flavored,	\$0.10	\$0.25	\$0.65
White Egg.—Handsome, oval form, thin skin, . . . . .	.10	.25	.65
Cow Horn.—Pure white, except at top, . . . . .	.10	.25	.65
Purple Top White Globe.—A thick, round, quick growing variety, . . . . .	.10	.25	.65

RUTA-BAGA

Seed should be sown in drills thirty inches apart, thin out to one foot apart in the row.

	Per oz. pkt.	Per ¼ lb.	Per lb.
American Purple Top Swede.—Flesh deep yellow, free growing,	\$0.10	\$0.25	\$0.75
White Rock or Sweet German.—White and sweet, a good keeper, . . . . .	.10	.25	.75
Long Island Purple Top.—Yellow turnip of best quality, . . . . .	.10	.25	.75

HERBS

	Per pkt.	Per oz.
Summer Savory,	\$0.10	\$0.40
Sage, . . . . .	.10	.40
Sweet Marjoram, . . . . .	.10	.35
Thyme, . . . . .	.10	.50
Dill, . . . . .	.05	.15

SWEET PEAS

	Per pkt.	Per oz.	Per ¼ lb.	Per lb.
Spencer Mixed, large flower with long stem,	\$0.10	\$0.15	\$0.45	\$1.50

TOBACCO

We are very careful in the selection of our tobacco seed, growing much of it on our own farm and saving the seed from only such plants as bear the correct type of leaf. We buy only of the most reputable growers. This seed is thoroughly blown which removes all the light seed, as we believe the heavier seed makes the strongest plants.

	Per ½ oz.	Per oz.	Per lb.
Willow Brook Broadleaf.—Specially grown and selected,	\$0.25	\$0.50	\$7.00
John Williams' Broad Leaf, . . . . .	.25	.50	7.00
Havana. Special selected type, round point leaf, very choice, . . . . .	.25	.50	7.00
Cuban Type, shade grown, . . . . .	.40	.75	9.00
Round Tip, (not Havana) . . . . .	.40	.75	9.00

While we exercise the greatest care to have all seeds pure and reliable, we do not give any warranty, express or implied, and will not be in any way responsible for the crop.

It Pays to use
OUR COMPLETE FERTILIZER
FOR THE TOBACCO CROP.



Northern Grown Certified Seed Potatoes

Certified Irish Cobbler.—An excellent extra early variety, will mature in seven weeks from time of planting; in color pure white with deep eyes, usually of good cooking quality.

Certified Improved Green Mountain.—This variety is too well known to require any description; it is recognized as the standard of excellence in all New England; white skinned, oval formed, smooth and attractive and a good yielder.

Don't waste labor and fertilizer on poor seed. Get the best.

Our certified seed potatoes have been carefully selected from fields in Aroostook County, Maine and Prince Edward Island.

Prince Edward Island Certified Seed Potatoes have set the standard for America. Beginning in 1918, when only one carload of Certified Seed Potatoes was shipped, the industry in Prince Edward Island has had a phenomenal growth.

The climate of Prince Edward Island is ideal for the production of potatoes. There is rarely a drought, and never excessive rains. The temperature ranges from 64 to 80 degrees, and fogs are unknown. The soil is of a red sandstone formation, naturally somewhat acid, free from stones and rocks, has good drainage, all of which are favorable and important factors.

The potato, while widely grown in the United States on many different kinds of soil, does better on certain types of soils than others.

If one were attempting to describe an ideal soil for potatoes, it would be about as follows: The soil should work easily and not get in poor physical condition after heavy rains; should be well supplied with organic matter or humus; and should be well drained but possess a good water-holding capacity, due to the presence of organic matter on the one hand and a proper proportion of the fine soil constituents, silt and clay, on the other. The soil should possess a good physical condition to some depth to enable the roots of the potato plants to enter the soil readily and allow for proper tuber development.

**It Pays to use
O. & W. High Grade Potato Fertilizer**



THE VALUE OF A FINE LAWN

A fine lawn is a profitable investment. It represents a real addition to the value of your property and unquestionably repays you richly in the enjoyment you derive from its beauty and in its actual, though unappraisable, financial worth.

TO BUILD A NEW LAWN

Start right. If your plot is small, dig it to a depth of 8 to 10 inches. A larger plot can be ploughed. The soil should then be thoroughly pulverized, apply a good lawn fertilizer at the rate of about five pounds to each 100 square feet and rake smooth.

SOWING THE SEED

Use plenty of seed—remember a thick grass sod is the best protection against weeds. Sow at the rate of $\frac{3}{4}$ to 1 pound to each 200 square feet, divide the seed in half and go over the ground twice, making the second sowing at right angles to the first. Choose, if possible, a cloudy day without wind, when rain seems promised. Sow the seed evenly and rake it in uniformly, then roll the ground thoroughly. Rolling keeps the lawn even, makes the soil compact and protects the roots from drying out. The best times to sow are in the early spring and in the fall—from August 15th to November 1st. This latter period is nature's seeding time.

RE-SEEDING

Every lawn, regardless of how thick the sod may be, is benefitted by a light seeding Spring and Fall. This is particularly advisable in the Fall.

Bare spots should be dug up and reseeded. Thin spots may be scratched up with an iron rake, seeded and rolled.

Choice of Seed

A good lawn grass mixture should be composed of nothing but true turf grasses in the right proportions, carefully recleaned to remove dirt, chaff and weed seeds as much as possible. Avoid mixtures containing grasses which do not belong in a lawn. The cost of the seed is the smallest item in the making of a good lawn; it pays to plant good seed.

Our lawn mixtures are all composed of heavy, recleaned, high germination seeds, can be furnished with or without White Clover and weight about 35 lbs. to the bushel.

SUPERFINE LAWN GRASS MIXTURE. All that the name implies—composed entirely of the fine, slow growing grasses which produce a soft, velvety, permanent lawn, firm turf and desirable color. 1 lb. pkg., 50c; 5-lb. bag, \$2.25; 10-lb. bag, \$4.00; 25-lb. bag, \$8.75.

O&W. SPECIAL LAWN GRASS MIXTURE. A superior mixture of the best and cleanest grades of seed. The varieties which it contains are best adapted to general lawn purposes. 1-lb. pkg., 45c; 5-lb. bag, \$2.00; 10-lb. bag, \$3.50; 25-lb. bag, \$7.50.

HARTFORD LAWN GRASS MIXTURE. This mixture is prepared, as far as price will permit, on the same lines as our Special Mixture. 1-lb. pkg., 40c; 5-lb. bag, \$1.75; 10-lb. bag, \$3.00; 25-lb. bag, \$7.00.

QUICKLAWN GRASS MIXTURE. A quick growing mixture containing some grasses which produce immediate growth, forming a nurse crop for the finer grasses which are slower growing. 1-lb. cellophane pkg., 35c; 2-lb. cellophane pkg., 60c; 5-lb. bag, \$1.40; 10-lb. bag, \$2.50; 25-lb. bag, \$5.00.

In spots shaded by trees or buildings, give special attention to fertilizing and watering. Sow a special shady place grass mixture. Remember that trees draw heavily on the food and water in the soil, so extra quantities of both must be provided to keep the grass supplied.

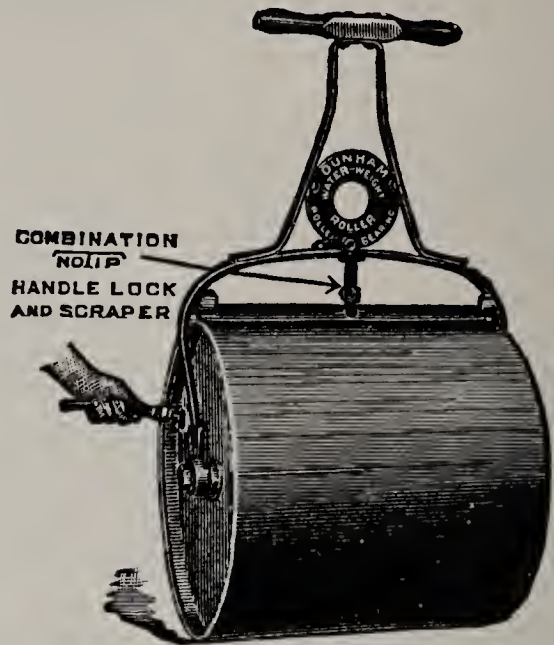
SHADY DELL LAWN GRASS MIXTURE. The best selection of fine grasses which thrive under shade of trees or between buildings where there is little sun. 1-lb. pkg., 45c; 5-lb. bag, \$2.00; 10-lb. bag, \$3.50; 25-lb. bag, \$7.50.

For best results enrich your soil with LUXURA—The Season-Long-Plant-Food.

Water Weight Lawn Rollers

At least one rolling a year is necessary to preserve a healthy turf. This should be done early in the spring, as soon as the ground is dry, to re-firm the soil about the roots after it has been loosened and heaved up by the freezing and thawing of winter. The roller should weigh 150 to 300 pounds, depending on the texture of the soil.

The water weight lawn roller has almost entirely superseded the old fashioned cast iron roller. By regulating the amount of water it can be made to weigh as desired.



	Diameter	Width of Drum	Weight Empty	Weight Full	Net Price
Plain bearing.....	14 in.	24 in.	68 lbs.	175 lbs.	\$10.50
Plain bearing.....	18 "	24 "	82 "	265 "	12.00
Roller bearing.....	24 "	24 "	110 "	420 "	18.00
Roller bearing.....	24 "	32 "	130 "	565 "	20.00

Mechanical Details of

BOB-A-LAWN

ENGINE: Small modern high speed, air cooled Cushman "Husky" gasoline engine. High tension magneto mounted within flywheel and fully enclosed. Oil pump supplies oil to all moving parts. Throttle controlled, Timken Bearing Equipped. Drop forged crankshaft and connecting rod.

TRANSMISSION: Through steel cut gears to steel sprockets operated by steel roller chain and controlled by disc clutch.

CONTROL: Friction clutch controlled from handle.

CUTTING UNITS: Five blade reel carried on Timken Tapered Roller Bearings.

CUT VARIATION: $\frac{5}{8}$ to $2\frac{3}{4}$ inches.

WIDTH OF CUT: 19 and 23 inches.

MOWER LUBRICATION: Alemite-Zerk Force Feed lubrication.

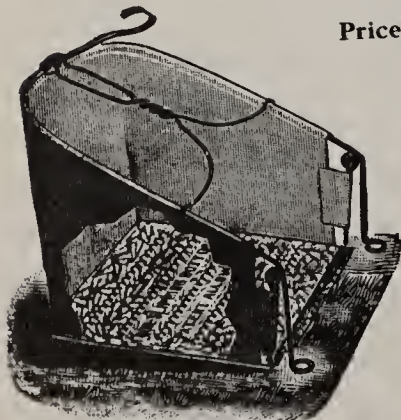
SPEED: 2 to 3 miles per hour.

SHIPPING WEIGHT: 19-inch cut, 205 lbs.
23-inch cut, 235 lbs.

FINISH: Engine—Black Enamel.
Mower—Emerald Green with Gold trim.

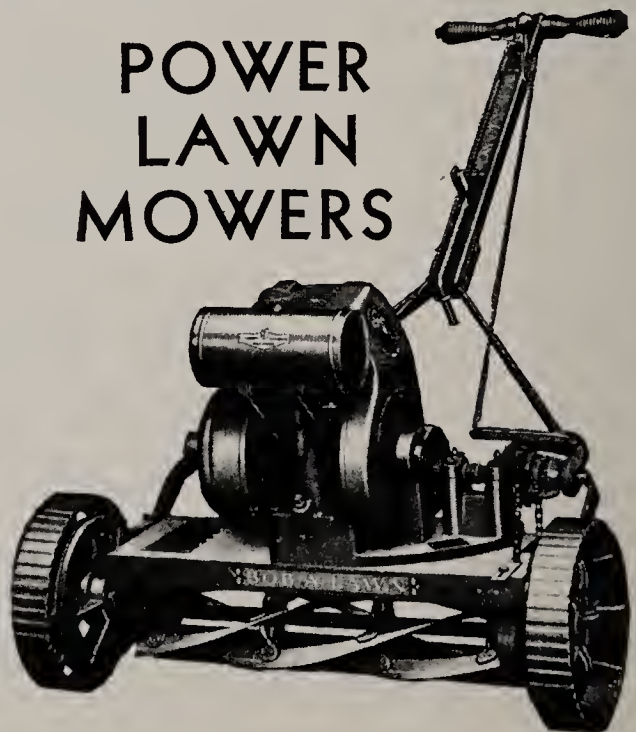
CAPACITY: 2 to 3 acres per day on 19-inch cut.
3 to 4 acres per day on 23-inch cut.

Prices on application.



CUSHMAN BOB-A-LAWN

POWER LAWN MOWERS



The "Easy-Emptying" Grass Catcher

Lift It Off to Empty

Fits Any Lawn Mower Perfectly

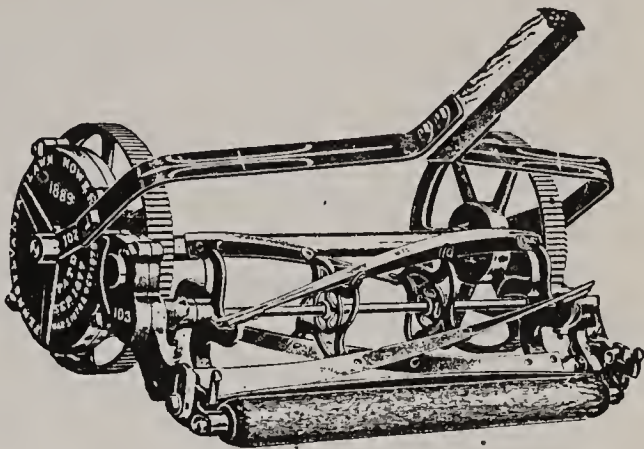
Galvanized Steel bottoms, heavy Duck sides. Has our New Improved Handle, Front Flange, Eye Bracket and Hook. Hook is permanently attached to catcher and hooks over handle of mower. Catcher is attached and detached instantly with one hand. Hook drops down parallel with handle. Guaranteed to give entire satisfaction.

Price 75c each

Lawn Mowers

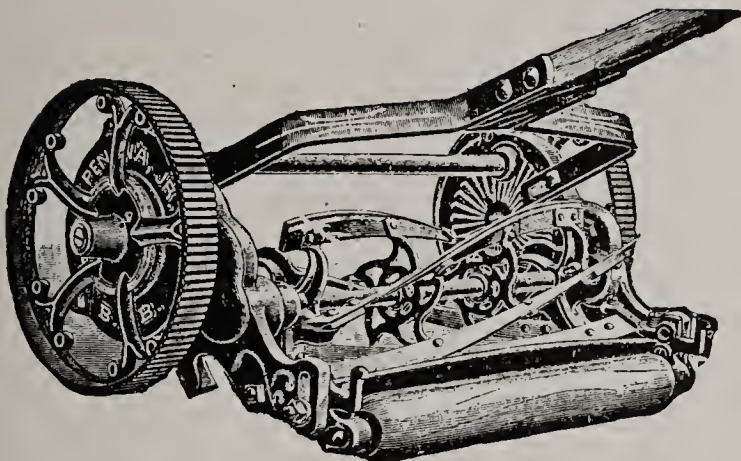
The Standard Pennsylvania is the pioneer of all lawn mowers, having an open cylinder, open wheels and a train of gears.

Width of cut	15 in.	17 in.	19 in.	21 in.
Price	\$23.50	\$26.50	\$30.00	\$33.00



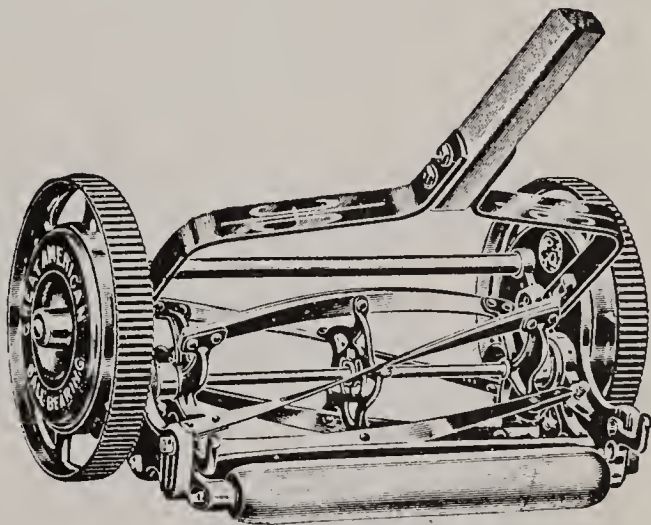
The Pennsylvania Jr. Ball Bearing has all the good points of the Standard Pennsylvania, with the addition of some features that make it the most perfect grass cutter in the world.

Width of cut	15 in.	17 in.	19 in.	21 in.
Price	\$23.50	\$26.50	\$30.00	\$33.00



The Great American Ball Bearing is the best all-round mower of its type made. The perfectly fitting ball cups and cones insure an easy running machine.

Width of cut	15 in.	17 in.	19 in.	21 in.
Price	\$16.00	\$18.00	\$20.50	\$22.50

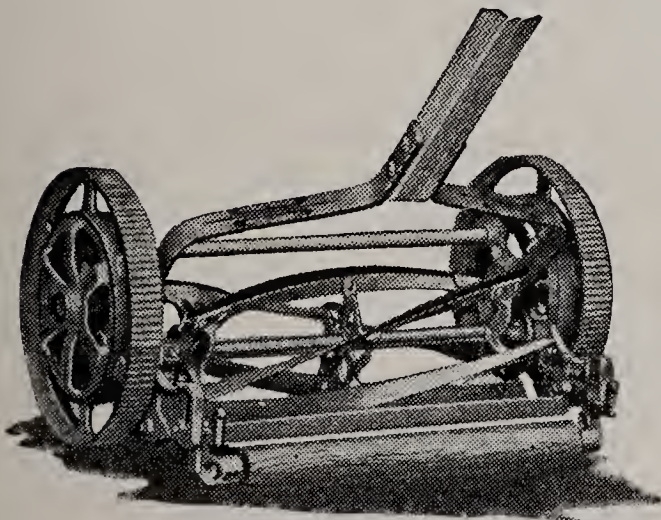


Wm. Penn a type of lawn mower that will give good service and satisfaction on any kind of a lawn.

Width of cut	16 in.	Price	\$15.00
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O. & W. Mowers, a good mower at a low price.

Width of cut	14 in.	Price	\$ 7.00
"	"	"	8.50
"	"	"	10.00



List of Grass, Clover and Millet Seed

Market fluctuations prohibit publishing prices.

ASK FOR QUOTATIONS LEGUME CROPS

Alfalfa-Grimm (Idaho Blue Tag) State Certified. The highest grade of the hardiest strains. Alfalfa requires well limed soil and good drainage. It furnishes more green forage, more pasture and more dry hay per acre than any other known variety of hay or grass. Sow 20 lbs. per acre. For best results, inoculate every seeding. Weight 60 lbs. per bushel.

Clover-Alsike. Is somewhat smaller in growth than red clover and the blossoms are pinkish white instead of red. Will thrive on poorer soil. Does not require lime and will produce well in damp spots. Sow 8 lbs. per acre. For best results, inoculate every seeding. Weight 60 lbs. per bushel.

Clover—Mammoth Red. This is a distinct type, similar to Medium Red in seed and blossom, but making a larger, coarser growth and a more extensive root system. It matures a little later and is at the best stage for cutting at the same time as Timothy. Sow 10 lbs. per acre. For best results inoculate every seeding. Weight 60 lbs. per bushel.

Clover—Medium Red. Is the most largely grown and most generally useful legume crop in America. In feeding value, the hay ranks next to Alfalfa. As a soil builder, it is the equal of any and superior to most. If sown with Timothy, the Clover usually predominates the first season and the Timothy the second season. After the second season the Clover largely disappears. Sow 10 lbs. per acre. For best results inoculate every seeding. Weight 60 lbs. per bushel.

Clover—Sweet White Blossom. It will grow in almost any climate and on almost any type of soil, thriving on land too poor for Alfalfa or Red Clover. It is a biennial. As hay or green forage, it ranks with Alfalfa in feeding value. Weight 60 lbs. per bushel. Sow 20 lbs. per acre.

Clover—White Dutch. Since it is low growing, it is not adapted for hay. It is used chiefly for pastures and lawns. Although perfectly hardy and not especially sensitive to conditions of soil moisture and drainage, White Clover must have lime. Weight 60 lbs. per bushel.

Cow Peas. They are coarse, bushy and spreading in growth. Since they require a long growing season and considerable warmth, they are not adapted for growing in this climate. Weight 60 lbs. per bushel. Sow in drills, 1 bu per acre.

Field Peas—Canada. Unlike Cow Peas, they do not need a long growing season but thrive best in a cool, moist climate. They are grown for hay, green forage and soil improvement, usually being seeded with Oats. Weight 60 lbs. per bushel. Sow 2 bu. per acre.

GRASS SEEDS

Timothy. Has been for years the standard and most widely grown hay grass. Is a short-lived perennial; a stand does not last more than four or five years, yielding its best crop the year after it is sown. Weight 45 lbs. per bushel. Sow 12 lbs. per acre.

Kentucky Blue Grass. Requires two or three years to become well set. Once established it is checked by, but lives through, considerable drought. It is the most nutritious of American pasture grasses. Also largely used for lawns. Weight 14 lbs. per bushel. Sow 1½ to 2 bu. per acre.

Canada Blue Grass. Is less productive and slightly less palatable than Kentucky Blue Grass. On the other hand, it is hardier and will grow on poorer soil. Weight 14 lbs. per bushel. Sow 1 to 1½ bu. per acre.

Red Top. No other grass will grow under as great variety of conditions as Red Top. It will thrive on almost every type of soil except sand. It grows rapidly and vigorously, forming a compact sod that persists under heaving grazing. It is also used for lawns. Weight (re-cleaned) 35 lbs. per bushel. Sow 15 lbs. per acre.

Orchard Grass. Is a long-lived perennial. It gets its name from its ability to grow in the partial shade of orchards and open wood lots. As a consequence, its principal use is for pasture and hay under shady conditions. Weight 14 lbs. to bushel. Sow 1½ to 2 bu. per acre.

Rye Grass. Domestic (Perennial). Noted for its rapid growth. Is not especially productive but serves a very useful purpose in permanent mixtures because it sprouts and grows quickly, forming a cover while the slower growing grasses are getting established. Weight 24 lbs. to bushel. Sow 1 to 1½ bu. per acre.

Rye Grass—Italian. Slightly coarser than Domestic, annual variety, little used in the North.

Chewings Fescue. Of all the finer grasses, none will stand more hard wear and trampling. It grows on poor, dry, sandy soil; resists drought and does well in shaded places. Particularly fine for lawns. Sow 30 lbs. per acre.

Poa Trivialis. (Rough Stalked Meadow Grass). A fibrous rooted perennial, noted for its productiveness and quick growth, doing best on rich, moist soils and in shaded places.

Sudan Grass. A quick-growing annual summer hay grass. It should largely supplant millet, which yields only a single cutting, whereas Sudan grass will give at least two.

Astoria Bent. A comparatively new and distinct kind of grass; seldom produces stolous but spreads from underground root stalks; produces splendid turf. Excellent for lawns and golf greens.

Seaside Bent. A stoloniferous grass. Used principally for golf purposes. Very good color. A most popular strain of Bent.

MILLETS

These are quick-growing annual grasses, adapted to a wide range of soils and climates, but requiring a good supply of moisture at the start and warm weather throughout their short growing seasons.

German Millet. Also called Golden Millet. Stems heavier, leaves broader and coarser than common Millet. Requires a slightly longer and warmer growing season and a mellower soil. Ready to cut in about 65 days. Weight 48 lbs. per bushel. Sow 25 to 40 lbs. per acre.

Hungarian Millet. Sometimes incorrectly called "Hungarian Grass". An early variety. The hay is of excellent quality and the yield, under good conditions, averages 2 to 2½ tons per acre, ranking second in this respect to German Millet. Weight 48 lbs. per bushel. Sow 25 to 40 lbs. per acre.

Japanese Millet. It is rather coarse and succulent, which makes it difficult to cure for hay and it is not recommended for that purpose. It makes the best silage and green forage of any of the Millets. For green feed, cut just before the heads appear. For ensilage, cut in late bloom or when the seed is beginning to form. Weight 32 lbs. to bushel. Sow 15 to 20 lbs. per acre.

GRAINS

Barley. Oderbrucker. Six-rowed, heavy yielding, used mostly for cover crop. Weight 48 lbs. to bu. Sow 2 bu. to acre.

Buckwheat—Japanese. Yields heaviest on fertile well-drained, sandy loam, but will give fair results on soils too poor for most other crops matures in about 70 days, ripens best in early Fall. Weight 48 lbs. per bu. Sow one bu. per acre.

Oats—Swedish Select. Large, plump, white kernels, with thin hulls, grows well on light soils and stands considerable drought, earliest of the heavy yielding sorts. Weight 32 lbs. per bu. Sow 2 bu. per acre.

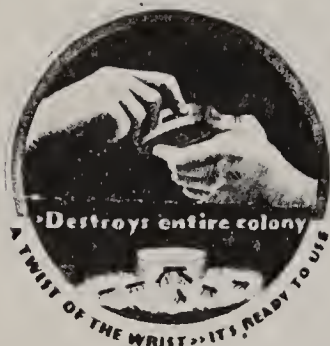
Rye—Rosen Winter. Produces a strong, vigorous straw. The grain is large and heavy and commands a premium over common rye, but the excess yield will more than pay the extra cost. Weight 56 lbs. per bu. Sow 2 bu. per acre.

INSECTICIDES AND FUNGICIDES

By far the greatest majority of insects and fungus diseases fall into three classifications, according to their method of control. Each class requires a particular remedy.

ACME. All Round Spray is composed of the most popular remedies used in combating these three classifications. This gives a triple service in just one operation. Prices: $\frac{1}{4}$ lb., 35c. 1-lb., 75c.

ACME ANT Kill Syrup is highly prized. Ants are attracted to it from many feet away. Ants drawn to the service cup feed on the syrup, returning to the nest where it is fed to the ants that remain in the colony. The Acme Ant-Kill cottage set contains a 3-oz. bottle of syrup, 5 service cups and 5 nails. Price: 60c per set.



TAT
THALATE

ANT TRAPS. This is the simplest, safest and most effective trap available. The bait is contained within a metal air-sealed trap. Through a special "locked-in" feature its cover is not easily removed by animals or small children. The bait is impregnated into carriers which prevent spilling or leaking and is so prepared to remain in an attractive form even after exposure to the air. Price: 25c each.

ARSENATE OF LEAD—POWDER. For spraying trees, shrubs and non-edible parts of vegetables against attacks of leaf-eating insects. Prices on application.

ARSENATE MAGNESIUM. Used for the control of the Mexican bean beetle. 2-lb. package makes 100 gals. spray. Prices on application.

ATLACIDE
CHLORATE WEED KILLER

Safe and efficient for destroying weeds, etc. Can be used as a dust or spray. Sifter top cans. 1-lb., 50c. $3\frac{1}{2}$ -lbs., \$1.50. 100-lb. drums, \$13.50.

BEE BRAND INSECT POWDER. Ground from pyrethrum flowers, harmless to mankind and domestic animals. For use against mosquitoes, bed-bugs, lice on fowls, ants, roaches, and many other insect pests. 1-lb. can, \$1.00.

BLACK ARROW INSECT DUST. Like Red Arrow Insect Spray, is non-poisonous and will not burn. Being light and fluffy, will stay suspended in the air for some time. Kills Garden and Greenhouse pests and is also very effective in Poultry Houses, Dog Kennels, and Dairy Barns. 1-lb. can, 45c. 5-lb. can, \$1.85.

"BLACK LEAF 40"—NICOTINE SULPHATE. For spraying fruits, flowers, shrubs, kills most species of aphids, thrips, leafhoppers, on roses, other ornamentals, orchard and garden crop. Use one to two teaspoonfuls to a gallon of water. Also used for delousing poultry. 1-oz. bottle, 35c. 5-oz., \$1.00. 1-lb., \$2.10. 2-lb., \$3.10. 5-lb., \$5.85. 10-lb., \$9.85.



BORDO POWDER. A convenient ever-ready dry bordeaux mixture for the control of black rot of grapes, strawberry leaf spot, tomato leaf spot, potato blight, celery blight and rose mildew. 1-lb., 20c. 4-lb. bag, 60c.

BUG DEATH. A non-poisonous powder used as a dust, kills potato, squash and cucumber bugs, also currant and tomato worms. 1-lb., 20c. 3-lb., 40c. 5-lb., 60c. $12\frac{1}{2}$ lbs., \$1.40. 100-lbs., \$8.00.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

CALCIUM ARSENATE. An economical poison for potato bugs and other external chewing insects. Can be used as a dust or spray. 1-lb., 20c. 5-lb., 60c. Special price on larger quantities.

CARBOLA. The modern disinfecting white paint. Use as a paint or powder. For poultry houses, stock barns, cellars, etc. 5-lb. package makes 2½ gallons of spray—75c. 10-lb. pkg., \$1.25. 25-lb. pkg., \$2.75. 50-lb. pkg., \$5.00.

COPPER SULPHATE (Crystals). Used as a spray for rots, molds, mildews and all fungus diseases, principally on potatoes. Prices on application.

COPPER SULPHATE MONOHYDRATED. Mixed with lime, it is used as a dust for blight control, mostly on potatoes.

CROW REPELLENT. Insures seed corn against attacks of crows, pheasants, blackbirds and other corn annoying birds. Also squirrels, moles, gophers, wood-chucks, wire worms, etc. ½ pint can enough for 1-bu. corn, 60c. 1 pint can, \$1.00.

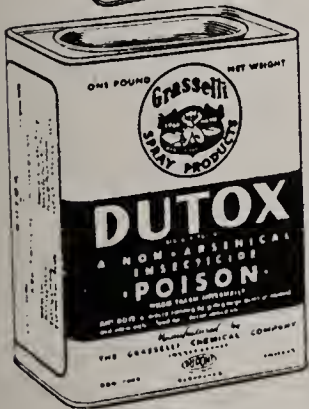
Stanley's CROW REPELLENT

Chipman CUBOR
Kills Plant Insects
SAFE COMPLETE SPRAY

Cubor may be used safely on flowers, fruits and vegetables. The ingredients, when sprayed, are non-poisonous and harmless to human, animal or bird life. 1-oz. bottle, 35c. 6-oz. bottle, \$1.00. 1-pt. can, \$2.00. 1-qt. can, \$3.50.



Cyanogas "A" Dust is a powder which, upon exposure to the air, gives a poisonous gas which is the killing agent. Since it is the gas that kills, it is not necessary to bring the dust into actual contact with the pest being controlled. For ants, rats, moles, woodchucks and other burrowing rodents. ½-lb. can, 45c. 1-lb. can, 75c. 5-lb. can, \$3.00.



Dutox controls several insects which are said to be carriers of serious plant diseases. Two of the most important are the tobacco flea beetle and striped cucumber beetle. Dutox kills both of these insects and thereby greatly aids in the control of plant diseases.

1-lb. can, 35c.

6-lb. bag, \$1.50.

EMULSO (Dormant Spray). The superior qualities of Emulso with its large droplets and its ability to retain itself on the tree tissues, and because of the thorough Emulsification of the oil that is used, permit the use of smaller amounts with greater effectiveness than is the case with either miscible oils or ordinary emulsions. 1-gal., \$1.25. 5-gal., \$4.50. 10-gal., \$8.00. Special prices on larger quantities.

KAYSO. The casein spreader that is effective in any mixture, wet or dry, under any condition. Lime sulphur, bordeaux, lead arsenate, nicotine and white-wash all cover better and stay on longer when mixed with Kayso. Use 1 lb. to 100 gallons dilute spray. 1-lb. pkg., 30c. 2-lb., 50c. 10-lb., \$2.00. 50-lb., \$9.00. 100-lb., \$17.00.

LIME AND SULPHUR SOLUTION is the fungicide most commonly recommended for apple and many other fruit diseases. The strength used for early spring spraying is 1 gallon to 40 gallons of water. In summer 1 gallon to 50 or 60 gallons. 1-qt. can, 35c. ½-gal. can, 50c. 1-gal. can, 75c. 5-gal. can, \$2.50. Ask for price on larger quantities.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

LIME AND SULPHUR DRY. This fungicide contains the same ingredients as the liquid lime sulphur but is more convenient to handle and is a generally recommended fruit spray. It is used at the rate of 3 to 3½ lbs. to 50 gallons of water.

12-lb. bag, \$1.75. 25-lbs., \$3.25. 50-lbs., \$6.00. 100-lbs., \$11.50.

PARIS GREEN. For the control of certain leaf-eating insects, also used in poisoned baits for killing cut worms and grasshoppers.

POMO GREEN. Leaf green sulphur dust for the control of black spot, and chewing insects on plants. Fine for roses. Can be used as a dust or spray.



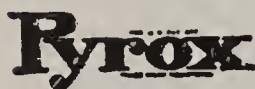
1-lb., can, 50c. 5-lb. pkg., \$1.75. 25-lbs., \$8.00.

Nicotine Pomo Green. Same as Pomo Green with the addition of Nicotine. Use where Aphis are present.

1-lb. can, 75c. 5-lb. pkg. \$3.00.

PYRETHROL or PYRETHRUM SOAP, a concentrated insecticide for the control of the Japanese beetle. Also useful against many other garden, orchard, farm and house pests. Will not stain, discolor or injure the tenderest leaves or flowers. Non-poisonous. 1-lb. makes 5 to 15 gallons spray.

½-lb. can, 50c. 2-lb. can, \$1.50. 10-lb. can, \$6.00.



is intended to control external chewing insects and many plant diseases for which bordeaux mixture is applicable. May be used on potatoes, tomatoes, cucumbers, cantaloupes, squashes, and most vegetables, grapes, strawberries, currants and many other fruits.

1-lb. jar, 50c. 5-lb. can, \$1.75. 10-lb. can, \$3.00. 25-lb. can, \$6.25. 50-lb. drum, \$10.75.

Where Aphis are present, use Nicotine Pyrox. 1-lb. jar, 50c. 40-oz. can, \$1.75.



Spray your garden with Red Arrow and you destroy both chewing and sucking insects at the same time. Absolutely non-poisonous to human beings, domestic pets and birds, but deadly to insects. Will positively not burn, blight or stain the tenderest leaf or flower. One ounce makes 4 to 8 gallons of spray. 1-oz. bottle, 35c. ¼-pt. can, \$1.00. ½-pt. can, \$1.75. Pint can, \$3.25. Quart can, \$6.00.

SANOSEED. Instantaneous potato dip. Is useful in the control of Black-leg, Rhyoctonia, Scab and certain other seed borne potato diseases.

SCALECIDE. Used for the destruction of the San Jose scale. Trees may be sprayed in early spring, before they start to come to bud. 1-qt., 60c. 1-gal., \$1.40. 5-gals., \$4.90. 10-gals., \$8.50. 15-gals., \$12.00.

SEMESAN. General disinfectant for vegetable and flower seeds or bulbs and certain plant diseases. 2-oz., 50c. 8-oz., \$1.60. 1-lb., \$2.75.

SEMESAN BEL. Dip disinfectant for seed potatoes. It is valuable for combating such surface-borne diseases of white seed potatoes as Rhizoctoma and scab, and for protecting the seed against certain soil-borne organisms that cause premature decay of the seed pieces.

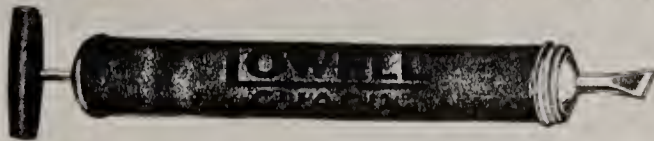
SEMESAN, JR. Dust disinfectant for seed corn, generally preserves the seed against rotting in cold, wet weather and checks certain forms of seedling blight, root and stalk rots. It also increases germination.

SULPHUR. Commercial Powdered. Used principally for checking mildew and various blights. 1-lb., 15c. 5-lbs., 50c. 10-lbs., 80c. 25-lbs., \$1.25. 50-lbs., \$2.00. For best results use Niagara Kolodust.

TOBACCO DUST. For dusting, an effective remedy for Aphids, bugs, etc., on roses, flowers, shrubs, melons, squash, cucumber, cabbage, etc. 1-lb., 15c. 5-lbs., 40c. 10-lbs., 65c. 25-lbs., \$1.25. 50-lbs., \$2.00. 100-lbs., \$3.50.

TOBACCO STEMS (in bales 200 to 300 lbs.). Used for fumigating greenhouses, etc. Also good for lawns, by covering grass with them in the fall and leaving until spring. \$1.75 per cwt.

LOWELL GUARD DUSTER



THIS Lowell Duster is most frequently used in and about the home, in destroying roaches, ants, flies, etc. It is easy and convenient to use because of its compact construction. Will handle all powdered insecticides. Made of heavy tin. Finished in green lacquer.

POWDER COMPARTMENT: 1½ inches diameter, 3½ inches long. Large screw filler cap. Nozzle simplifies driving the powder into cracks and crevices.

PUMP: 1½ inches diameter, 7 inch stroke.

No. 460. GUARD DUSTER..... 35c ea.

LOWELL SENTRY DUSTER



ADUSTER of medium size with capacity large enough for use in stores, restaurants, soda fountains, etc. It will handle all powdered insecticides. Made of heavy tin. Finished in green lacquer.

POWDER COMPARTMENT: 1¾ inches diameter, 5 inches long. Valve prevents powder from getting into pump cylinder. Large screw filler cap is fitted with strainer and with fishtail nozzle.

PUMP: 1¾ inches diameter, 8½-inch stroke.

No. 463. SENTRY DUSTER... 50c ea.



LOWELL WARRIOR DUSTER



THIS Duster is designed for use in the garden, fields, in the dairy barn, in the hog and poultry house, etc. It will handle all powdered insecticides. Made of heavy tin. Finished in green lacquer.

POWDER COMPARTMENT: 2¾ inches diameter, 5 inches long. Air valve prevents powder from entering pump. Filler cap 2¾ inches diameter, permits easy filling. A powder strainer within the compartment prevents clogging.

PUMP: 2¾ inches diameter, 9 inch stroke.

EQUIPMENT: Two 12 inch extensions, two angle nozzles, one narrow and one wide faced to permit covering large areas.

No. 465 WARRIOR DUSTER. \$1.25 ea.

LOWELL GLADIATOR DUSTER



THIS duster is principally adapted for field crops such as beans, potatoes, cotton, etc. It will handle all insecticides in powder form, and has the capacity to do a large amount of work. Made of tin coated sheet steel. Finished in green lacquer.

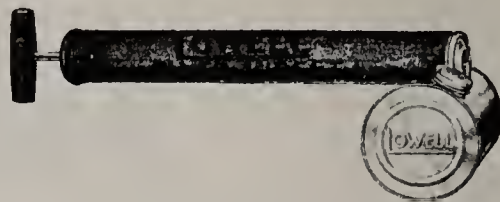
POWDER COMPARTMENT: 5½ inches diameter, 6¾ inches long. Forced air draft agitates powder continually during operation.

EQUIPMENT: Two 12 inch extensions. Two angle nozzles, one narrow and one wide faced to permit covering large areas.

PUMP: 2¾ inches diameter, 12 inch stroke. Pump is detachable from powder compartment making the valve between the pump and powder chamber accessible.

No. 467 GLADIATOR DUSTER..... \$2.50

LOWELL FLYER MIDGET SPRAYER



THE Flyer Midget meets the demand for a very low priced sprayer for household purposes. Its construction permits it to be packed in unit cartons with insecticides. Will handle all solutions. Made of heavy tin.

Structural Details

TANK: 3 inches diameter, 3 inches long. $\frac{3}{4}$ -inch can screw for filling. Capacity about $\frac{3}{4}$ pint.

PUMP: $1\frac{1}{4}$ inches diameter, 10 inches long. Se-

curely attached to top of tank. Heavy plunger rod and special leather.

No. 250 FLYER MIDGET.

25c ea.

LOWELL HANDY GARDEN SPRAYER



THE Lowell Handy Garden Sprayer may be used with any insecticide or disinfectant. It is a convenient pattern to use in the back yard garden, around shrubbery or in the poultry house. The pump sets into the top of the tank and insures perfect alignment of the syphon tube with the end of the pump. Made of heavy tin.

Structural Details

TANK: 4 inches diameter, 4 inches long. Capacity about one quart.

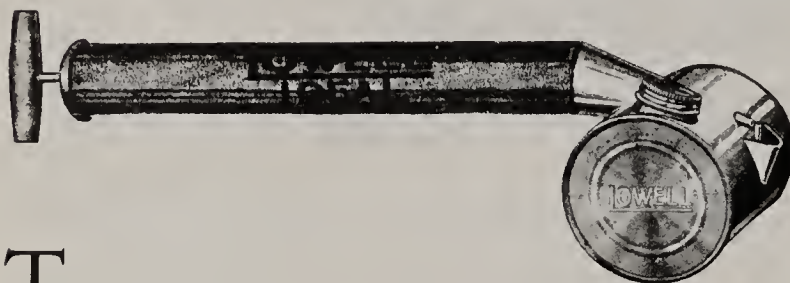
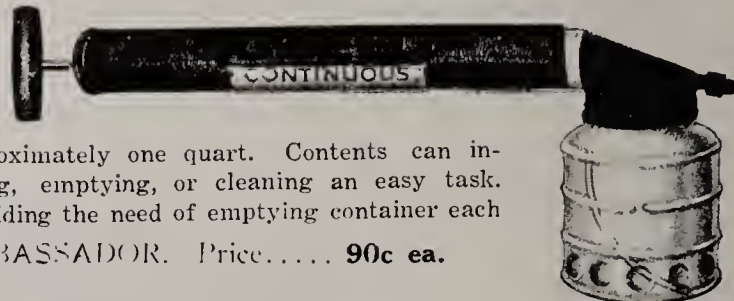
PUMP: $1\frac{1}{2}$ inches diameter, 13 inches long. Plunger fitted with a special leather.

No. 240 HANDY GARDEN..... 35c ea.

AMBASSADOR SPRAYER (Continuous)

Tank. Glass, specially designed, capacity approximately one quart. Contents can instantly be determined. Wide mouth makes filling, emptying, or cleaning an easy task. Extra jars can be used for different solutions, avoiding the need of emptying container each time after using.

No. 206-G AMBASSADOR. Price..... 90c ea.



LOWELL IDEAL QUART SPRAYER

THE Ideal, for all purposes to which a quart size sprayer is adapted, is just what its name implies. The cone shaped end of the pump passes through the top of the tank, adding rigidity to the sprayer and insuring proper alignment of the syphon tube with the end of the pump.

Structural Details

TANK: 4 inches diameter, 4 inches long. Tin, galvanized iron or sheet brass as selected. $1\frac{1}{4}$ inch can screw for filling. Capacity one quart.

PUMP: $1\frac{1}{2}$ inches diameter, 13 inches long. Pro-

vided with special leather. Drip cup eliminates seepage.

No. 235G IDEAL, Galvanized Tank 50c

LOWELL JUMBO (CONTINUOUS)

A CONTINUOUS sprayer of large capacity is a very ready seller for use with disinfectants, insecticides, etc. This sprayer is designed for use in the dairy barn, hog pen, chicken house and for the application of all insecticides in the small garden or vegetable plot. Handles oil solutions very well and will function perfectly with all oil insecticides.

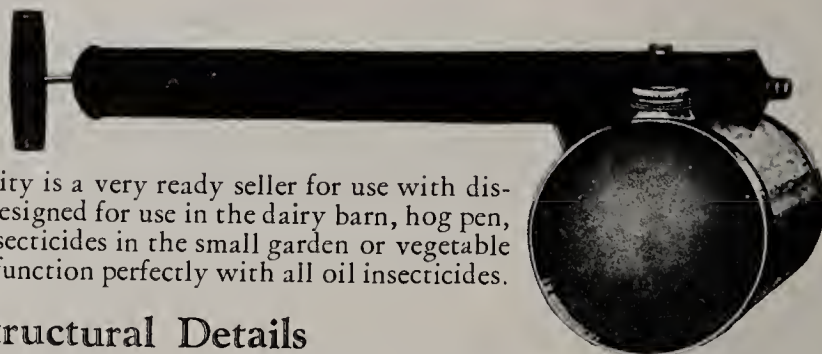
Structural Details

TANK: $5\frac{1}{2}$ inches diameter, $6\frac{3}{4}$ inches long. $1\frac{3}{4}$ inch can screw for ease in filling and cleaning. Capacity about 3 quarts. Made of galvanized sheet. All seams soldered and leakproof. Air tested and inspected.

PUMP: $1\frac{1}{2}$ inches diameter, 16 inches long. Fin-

ished in green lacquer. Sets into the top of the tank and is securely soldered. Nozzle, brass ball check and supply tube easily accessible for cleaning and inspection.

No. 215. JUMBO CONTINUOUS \$1.35



LOWELL STREAMER SPRAYER



THERE is a large demand for a high-grade compressed air sprayer at a low price. To meet this demand, the Lowell Streamer is produced. No lack of Lowell Quality is found in the Streamer. It is built throughout of the best grade of material and by experienced workmen. Each sprayer is thoroughly tested and inspected.

It will do the same work as higher priced compressed air sprayers and only large volume production and economy in manufacturing permit the low price to be maintained.

TANK: $7\frac{1}{4}$ inches diameter, $20\frac{1}{2}$ inches high. Copper alloy galvanized sheet. Side seam closely riveted; top and bottom double folded. Heavily soldered throughout. Capacity about 4 gallons. Shoulder strap of heavy webbing.

No. 92 STREAMER SPRAYER (As shown) Price **\$4.20**
 " " " " (Brass) Price **\$6.00**

LOWELL PENNANT SPRAYER



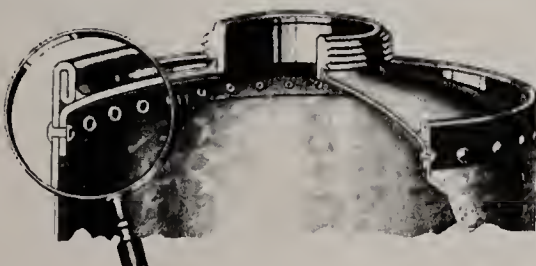
Spray Your Fruit—Increase Your Yield

TANK: $7\frac{1}{2}$ inches diameter, $21\frac{3}{4}$ inches high. Copper alloy galvanized or brass sheet as selected. Side seam, top and bottom closely riveted and sweat soldered. Tank strengthened by beading near top and bottom. Capacity 4 gallons.

EQUIPMENT. Improved Lowell nozzle. Hose 27 inches long, specially treated to withstand chemical action. 18 inch brass extension.

THE Lowell Pennant is used in the spraying of small orchards, gardens, shrubbery, field crops, for whitewash, disinfecting, the removal of old wall paper, etc. The correct dimensions and structural design enable the Lowell Pennant to develop and maintain very high pressure.

No. 40G (Old No. 210). PENNANT, Galvanized..... **\$6.25**
 No. 40B (Old No. 211). PENNANT, Brass..... **\$9.60**



The Myers Compressed Air Sprayer.

With 20'' Brass Extension Rod and 45 Degree Nozzle.

Fig. 2416

SCREW CONNECTED HOSE
QUICK DETACHABLE

Fig. 2415

Fig. 1892



Capacity 2 1/2 Gallons.

Capacity 4 1/4 Gallons.

Figs. 2415, 2416 and 1892 illustrate the Myers Compressed Air Sprayer as built in two sizes: 2 1/2 and 4 1/4 gallons capacity (**both over-size**) meeting all demands for this style of sprayer.

THE TANK is made of heavy galvanized iron or brass. THE SIDE WALLS are double seamed, riveted and soldered. THE TOP and BOTTOM are extra heavy material with flanged edge over which the side walls are turned and thoroughly soldered. Has 1 3/4'' Brass Tube Cylinder. The nut is operated by lugs on the lower part of the Handle, which engage in opening at the top of the nut. By means of the lugs on the handle the nut can be screwed tightly to the top of the tank, and at the same time lock the Plunger in position, which also permits of the tank being carried by the Handle when desired.

The 45 degree Nozzle and 20'' Brass Extension furnished without extra charge are so constructed that the Nozzle can be attached to the end of the Brass Rod or direct to the connection at the end of the Hose, giving the advantage of 45 degree discharge either way.

Fig. 1892 shows Sectional View of Compressed Air Sprayer.

The Valve is simple and effective. Can be instantly removed for repairs.

PRICE LIST, Represented by Figs. 2415 and 2416.

No. 2296,	Myers 2 1/2 Gallon Compressed Air Sprayer, Fig. 2415, with 20'' Brass Extension Rod. GALVANIZED TANK. List.....	PADNA	\$ 4.75
No. 2296B,	Same as No. 2296 with BRASS TANK. List.....	PADOY	8.50
No. 2297,	Myers 4 1/4 Gallon Compressed Air Sprayer, Fig. 2416, with 20'' Brass Extension Rod. GALVANIZED TANK. List.....	PADTC	5.50
No. 2297B,	Same as No. 2297 with BRASS TANK. List.....	PADUM	9.50
	3/8'' Three-ply Hose, per foot	PABIN	.10
Fig. 480,	Four foot 1/4'' Iron Pipe Extension, with faced coupling	PADWI	.45

The Myers Cog Gear Spray Pump

(Double Acting)

With brass valves and ground bevel brass seats, 2" seamless brass removable cylinder, hemp packed plunger and double lever shut-off discharge.

SPECIAL FEATURES: Cog Gear Movement increases the leverage, adapting it for spraying under heavy pressure. Mounted complete. Occupies smallest possible space. Capacity sufficient for 8 nozzles. An ideal outfit for spraying potatoes. Will set in an ordinary farm wagon box.

No. R316C Pump complete, 50 gallon barrel mounted as shown, with pressure gauge, two 15 ft. leads of $\frac{3}{8}$ in. 7 ply discharge hose, two Fembro nozzles, two 8 ft. pipe extensions with lever shut-offs and mechanical agitator.

Price \$60.00

Net Cash Price \$57.00



No. R336 $\frac{1}{2}$ B. Myers Portable Sprayer

Complete as shown in illustration, with dasher agitator, 15 feet $\frac{1}{2}$ in. 5 ply discharge hose, 8 foot extension and Vermorel nozzle.

Price \$25.00

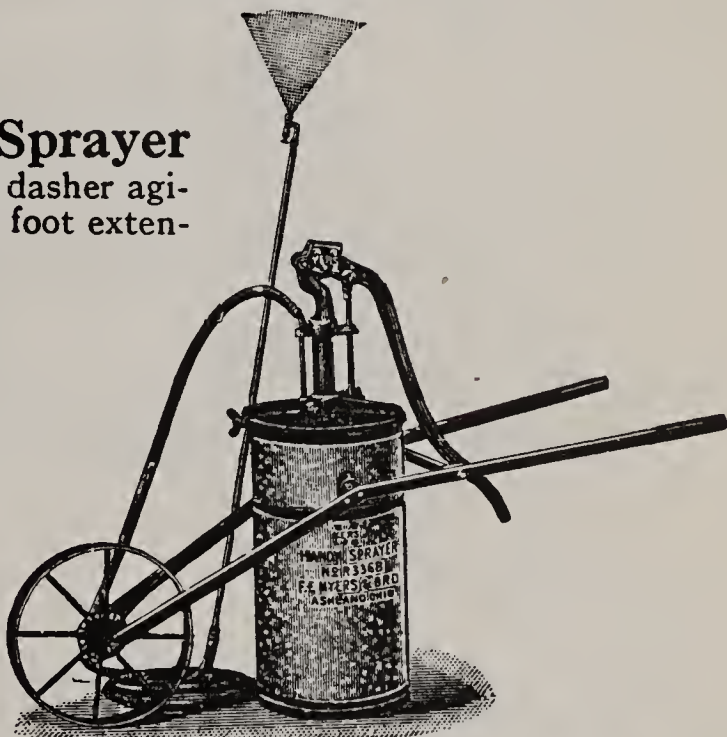
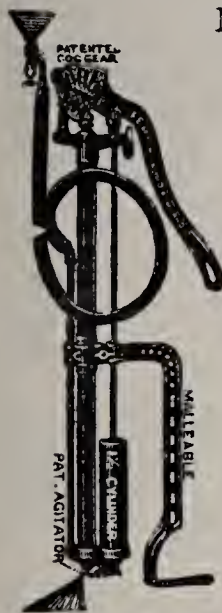
Net Cash Price \$23.75

No. R324 Myers Cog Gear Lever Bucket Spray Pump

With agitator, complete with detachable hose and graduating Vermorel fine sprinkling and solid stream nozzle.

Price \$6.00

Net Cash Price \$5.70



No. 327 $\frac{1}{2}$ Myers Little Giant Brass Bucket Spray Pump

With agitator, complete with hose and imperial combination fine, coarse spray and solid stream nozzle, with malleable foot rest.

Price \$3.75

Net Cash Price \$3.56

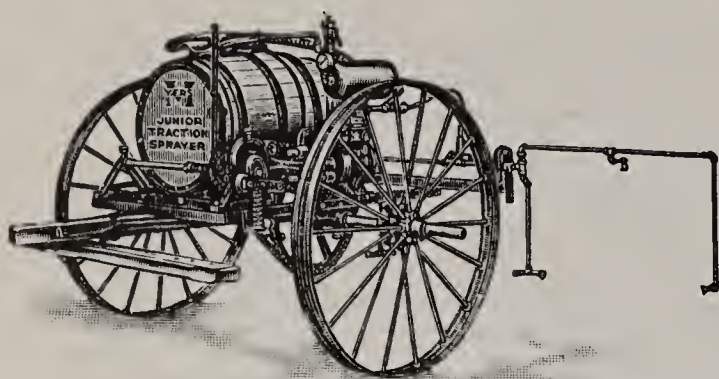
No. R318B—Myers Cog Gear Barrel Spray Pump

Complete with one lead of 15 feet of $\frac{1}{2}$ -inch 5-ply discharge hose, graduating Vermorel nozzle, and mechanical agitator for closed head barrel.

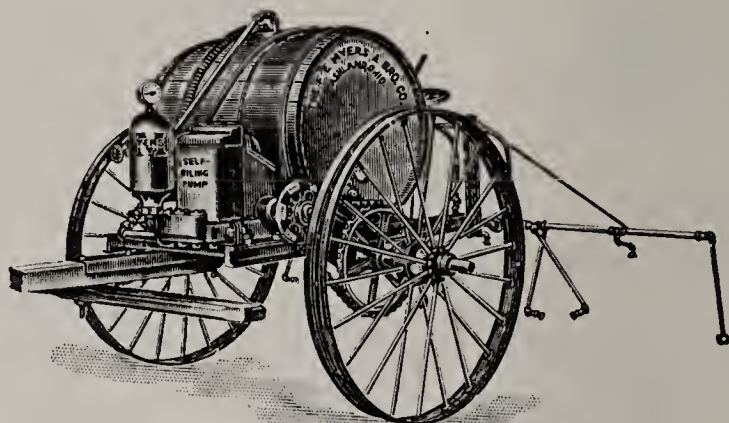
Price \$16.00

Net Cash Price \$15.20

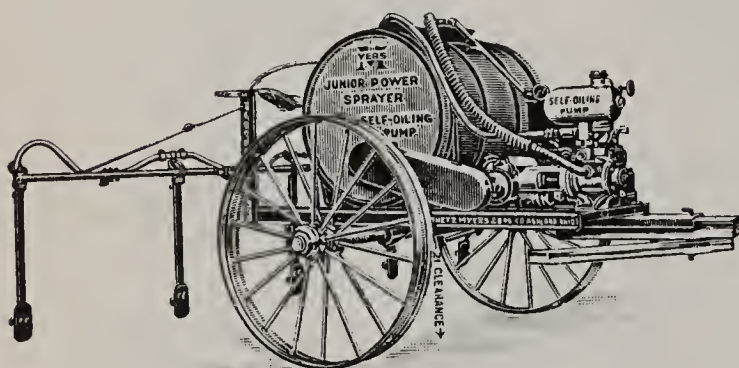




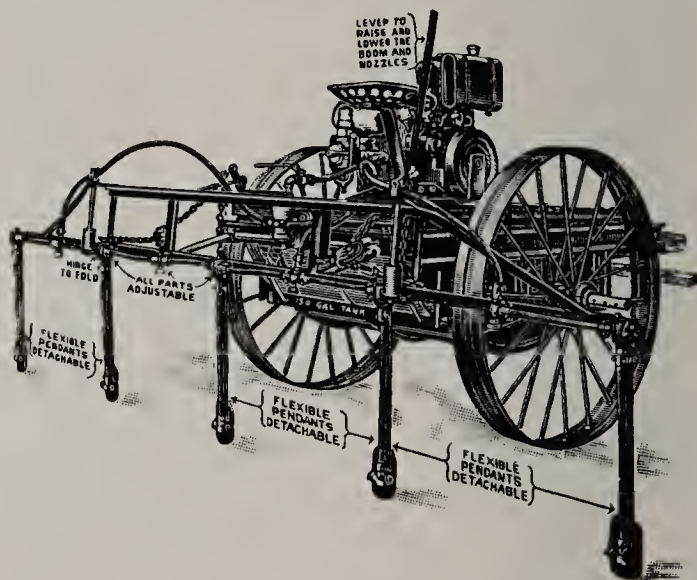
No. 1076 Myers Traction Sprayer with 50-gallon Tank, Pressure Gauge, Lever Cut-off, Long Double Tree and Neck Yoke, 4 Row Boom. Price—\$160.00. Net Cash Price—\$152.00 f.o.b. Factory.



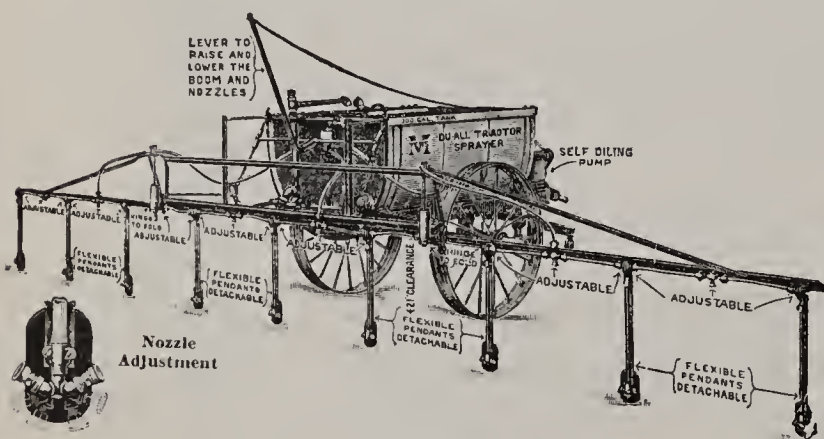
No. 1077 Myers Traction Sprayer with 100-gallon Round Tank, Lever Cut-off, Sediment Chamber, Long Double Tree and Neck Yoke, 4 Row Boom. Price—\$280.00. Net Cash Price—\$266.00 f.o.b. Factory.



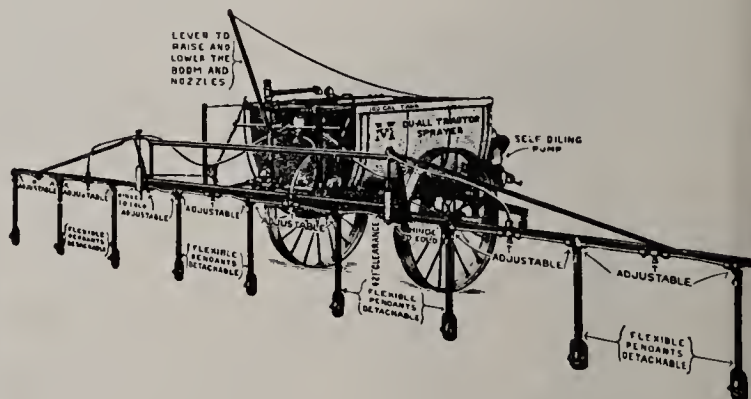
No. 1079 Myers Junior Power Sprayer with 100-gallon Round Tank, Self-oiling Bulldozer Pump, 2 H.P. Engine and 4 Row Boom. Price—\$330.00. Net Cash Price—\$313.50 f.o.b. Factory.



No. 1070X Myers Senior Power Sprayer, with 150 gallon Cypress Tank, Duplex Self-oiling Pump, 4 H.P. Engine, 4 Row Boom. Price—\$466.00. Net Cash Price—\$442.70 f.o.b. Factory.



No. 1096X Myers Du-All Tractor Driven Power Sprayer with 300-gallon Tank, Triplex Self-oiling Pump and 6 Row Boom. Price—\$455.00. Net Cash Price—\$432.75 f.o.b. Factory.



No. 1099X—Above with Quadplex Self-oiling Pump and 8 Row Boom. Price \$510.00. Net Cash Price—\$484.50 f.o.b. Factory.

Write us for complete Spray Catalogue.

All-Wood Frame Steel Tray General Purpose BARROW

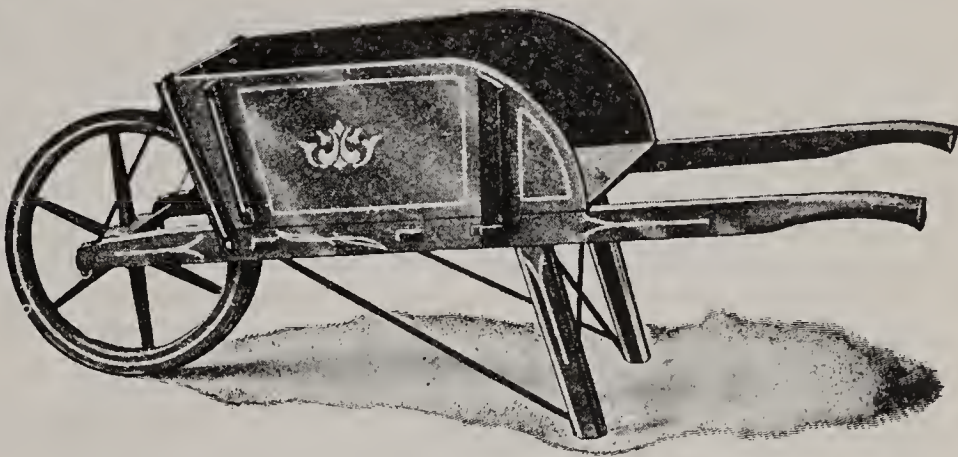


For the contractor, farm, garden and home use, cheapness and lightness have not been gained by sacrificed strength, rigidity or finish. And it has not been made by simply building it "child size" It is a real man's barrow and is made for real work.

Price \$5.00 Net.

GARDEN BARROWS

These barrows are nicely painted and striped, either red or green and built to last a lifetime.



	Number	With Wood or Steel Wheels	Inside Measurement of Box, Length, Inches	Width at Wheel End, Inches	Width at Handle End, Inches	Depth, Inches	Diameter of Wheel, Inches	Tread of Wheel, Inches	Weight Each, Pounds	Net Price.
Eastern Garden	3	Medium	24	16	20	10½	18	11½	40	\$7.00
Eastern Garden	4	Large	26½	18½	23	12	20	11¼	45	7.50
Buch's	2	Large	27	20	24	12	20	1¾	50	8.25
Buch's	3	Medium	26	19	22	12	20	1¾	50	7.75
John Deere		Medium	27	19	22	13	20	1¾	50	8.00
John Deere		Large	29	20	23	16	20	1¾	55	8.50

MORTAR BARROWS



Lansing	No. F2	(as shown)	\$7.50
"	" F24	(deeper tray)	8.00
John Deere	" C3½	(oval front)	8.00

Dusting

The Modern Method Of Crop Protection

The rapid strides which the dusting method of crop pest control has made in the past four or five years is directly traceable to the efforts of the Niagara Sprayer Company. Its success, however, has come because it has done those things which were claimed for it, and brought results by the most direct route.

Dusts of infinite fineness have been perfected, containing those properties necessary to kill insect pests and prevent diseases. Not only do the Dusts do the work done by liquid sprays, but their development has opened new fields of Crop Pest Control.

Niagara Dusts are now being made that stick "through Wind and Rain," and exhibit toxic properties to many fungi and insects heretofore unequaled by either wet or dry materials.

Niagara Dusting Material

DORMANT DUST. (In metal drums 50 lbs. each). Delayed dormant dusting for San Jose scale, red mite and aphid on apples, pears, and shade trees. \$10.25 per 100 lbs.

KOLODUST. (In bags). A new dust developed by the Niagara Sprayer Co. It is sulphur fused with bentonite at high temperature and the product is koloized (a colloidal form). This produces a dust of infinite fineness much finer than 300 mesh, which experiment stations have proven more toxic to fungous diseases than any sulphur yet produced. \$5.50 per 100 lb. bag.

KOLOTEX. (In bags). A Sulphur Poison dust that will stick. The New Exclusive Niagara Sulphur Fungicide with Lead Arsenate. \$7.75 per 100 lb. bag.

KOLOKIL. (In bags). A Sulphur Heavy Poison Dust. \$8.25 per 100 lb. bag.

KOLOPEACH. (In bags). A Sulphur Small Poison content Dust suitable for dusting peaches and other stone fruits. \$6.50 per 100 lb.-bag.

A-1 MIXTURE. (In metal drums). A Contact Poison Dust. High percentage of quickly volatile nicotine fumes. 3% actual 100% nicotine. For aphids, red bugs, pear psylla, etc. The best contact dust for sucking insects, both out doors and green-houses. \$13.00 per 100 lb. drum.

P. A. DUST. (In metal drums). Used same as A-1, contains 4% actual 100% nicotine. \$15.50 per 100 lb. drum.

VITIDUST. (In metal drums). Copper, Lime, Lead Arsenate. Mixture for grapes. \$7.50 per 100 lb. drum.

COPODUST. A Copper-Lime Dust. The New Exclusive Niagara Copper Lime Fungicide for blights of potatoes, and other field crops. \$5.00 per 75 lb. bag.

COPOTEX. A Copper Lime Dust, with Poison added for potato bugs, etc. \$6.50 per 75 lb. bag.

WILDFIRE DUST. A Copper Lime Dust for tobacco. \$5.00 per 75 lb. bag.

Above Prices Subject to 5 Per Cent Discount For Cash



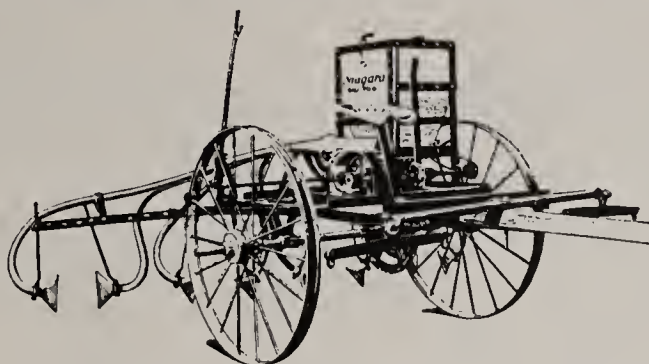
Niagara Blower Gun Crank Type,
Brush Feed, Price \$14.00 —Net Cash

2 row "Y" attachment, Price \$1.50 net.

Niagara Hand Plunger Gun, Price
\$1.00 net.

NIAGARA DUSTING MACHINES

For Vegetable and Fruit Crops



The "Dri-Fog" Crop Duster (4 row, 8 nozzle or 6 row, 12 nozzle) is the most recent addition to Niagara's complete line of Dusts and Dusters.

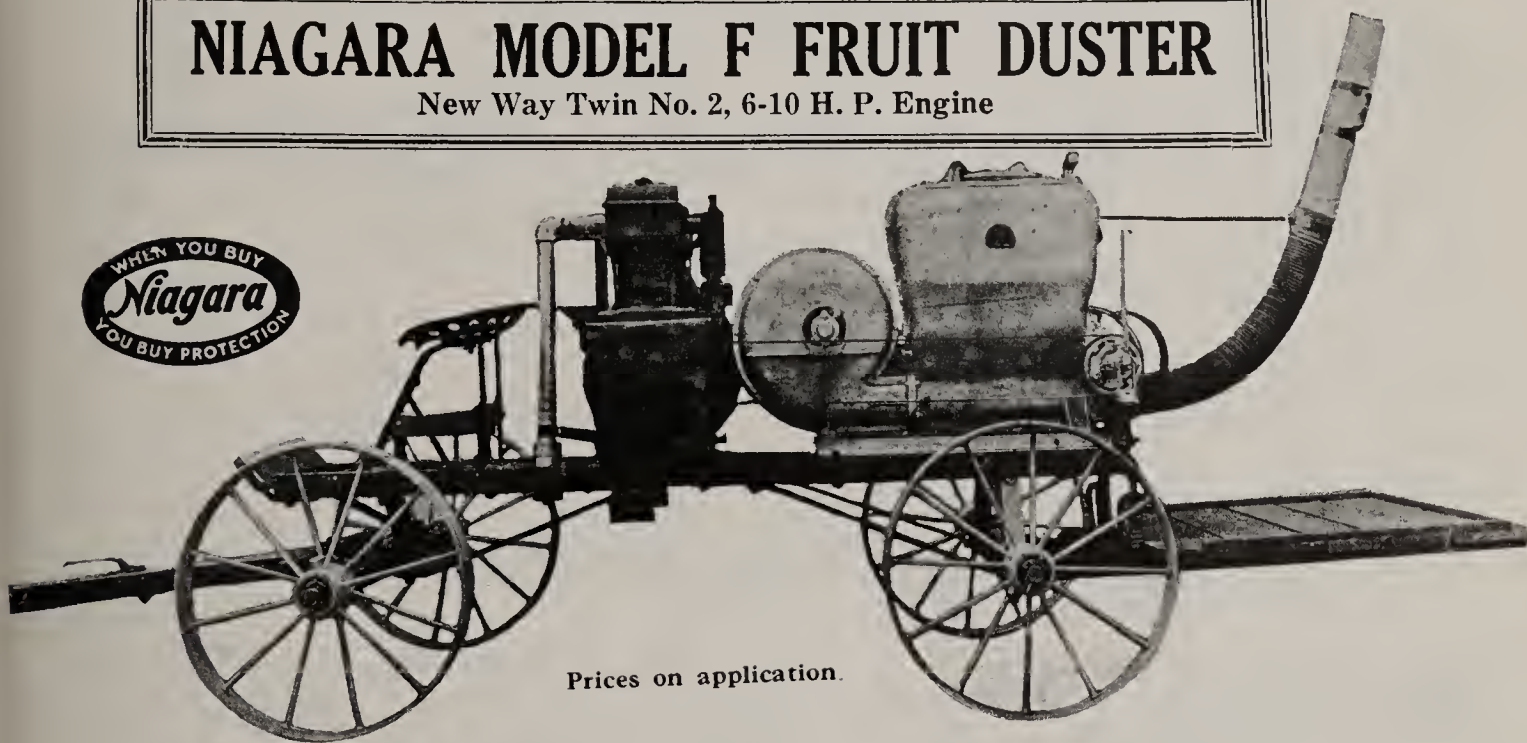
This great crop duster is a new machine in every respect — in design, construction and performance.

Nothing has been overlooked that would simplify the crop dusting method, reduce the time and labor necessary for each job, reduce the cost and give the utmost efficiency in preventing ravages of pests and diseases.

Price (4 row 8 nozzle) \$255.00. **Net Cash Price \$242.25.**

NIAGARA MODEL F FRUIT DUSTER

New Way Twin No. 2, 6-10 H. P. Engine



Prices on application.

As the dusting method has steadily increased in popularity, there has been an ever increasing demand for a greater air blast—to carry the dust to the tops of extremely large trees—and to speed up an already fast operation. To accomplish this more power was necessary and a duster that would stand to be run at extraordinary speeds.

The Niagara Model F Fruit Duster mounted on the cross-reach wagon, powered by a New Way Twin No. 2, 6 to 10 H. P. engine, is now the standard Orchard Duster. This duster is capable of giving continued performance at a sustained speed until the job is complete.

It has power sufficient to project the penetrating cloud of dust to the tops of very large trees.

The employment of the Niagara Brush Feed principle assures the grower that he will get the greatest protection per pound from his dusting materials.

Niagara Dusts are extremely fine—if a grower wishes to get the greatest efficiency from these dusts, he must have power behind them.

A GREAT DUSTER—POWERED BY A GOOD ENGINE

JOHN DEERE-SYRACUSE NO. 821 SERIES TRUSS STEEL-BEAM HILLSIDE PLOWS



Ample throat room and close-fitting joints prevent clogging. Choice of white iron or tempered steel moldboard adapts them to a variety of soils. Steel and malleable iron give maximum strength and unusual light weight. Two-piece truss-style beam is extra sturdy. Renewable shoe protects standard and serves as landside.

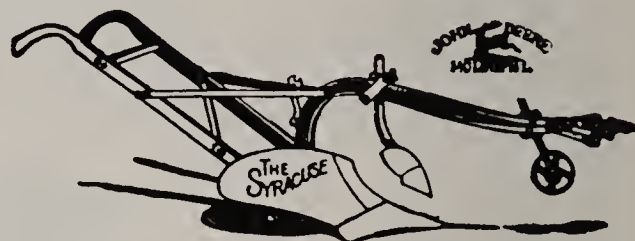
No.		Price	Net Cash Price
825	One horse wheel only.....	\$13.40	\$12.73
824	One horse wheel only.....	14.65	13.92
823	Two horse full trim.....	24.40	22.18
822	Two horse full trim.....	29.40	27.93
821	Two horse full trim.....	30.40	28.88

All above prices are for chilled mouldboards

JOHN DEERE-SYRACUSE NO. 31-32 SERIES WALKING PLOWS

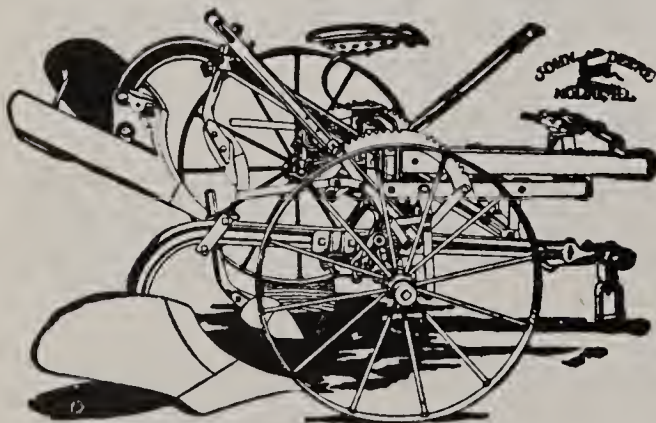
The moldboard of hardened soft-center steel is formed so that a furrow may be turned smoothly up or down on sloping land. This feature makes Syracuse plows of this series popular in sections where the land is somewhat rolling.

Steel landside of extra height, furnished with a cast shoe which can be renewed at slight expense.



No.		Price	Net Cash Price
32	Medium 2 horse full trim	\$27.90	\$26.51
31	Large 2 horse... "....."	29.65	28.17

John Deere Two-Way Plow

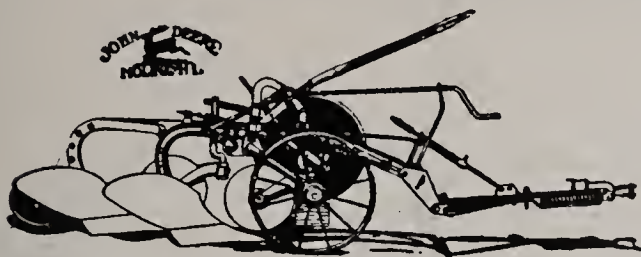


Ideal for plowing hillsides or irregular fields. Leaves no dead furrows or back ridges. Patented features make this the easiest plow to control.

The superiority of Syracuse Plow Bottoms is the result of many years' experience in the successful manufacture of plow parts and constant study of the various soil conditions that require their use.

				Price	Net Cash Price
Style	Capacity	Weight	Hitch		
Chilled	12-inch	659 lbs.	2 horse	\$103.00	\$ 97.85
Chilled	14-inch	677 lbs.	3 horse	107.00	101.65
C-Comb	12-inch	639 lbs.	2 horse	105.00	99.75
C-Comb	14-inch	655 lbs.	3 horse	109.00	103.55
S-Comb	12-inch	639 lbs.	2 horse	107.00	101.65
S-Comb	14-inch	655 lbs.	3 horse	111.00	105.45

JOHN DEERE No. 4 TRACTOR PLOW

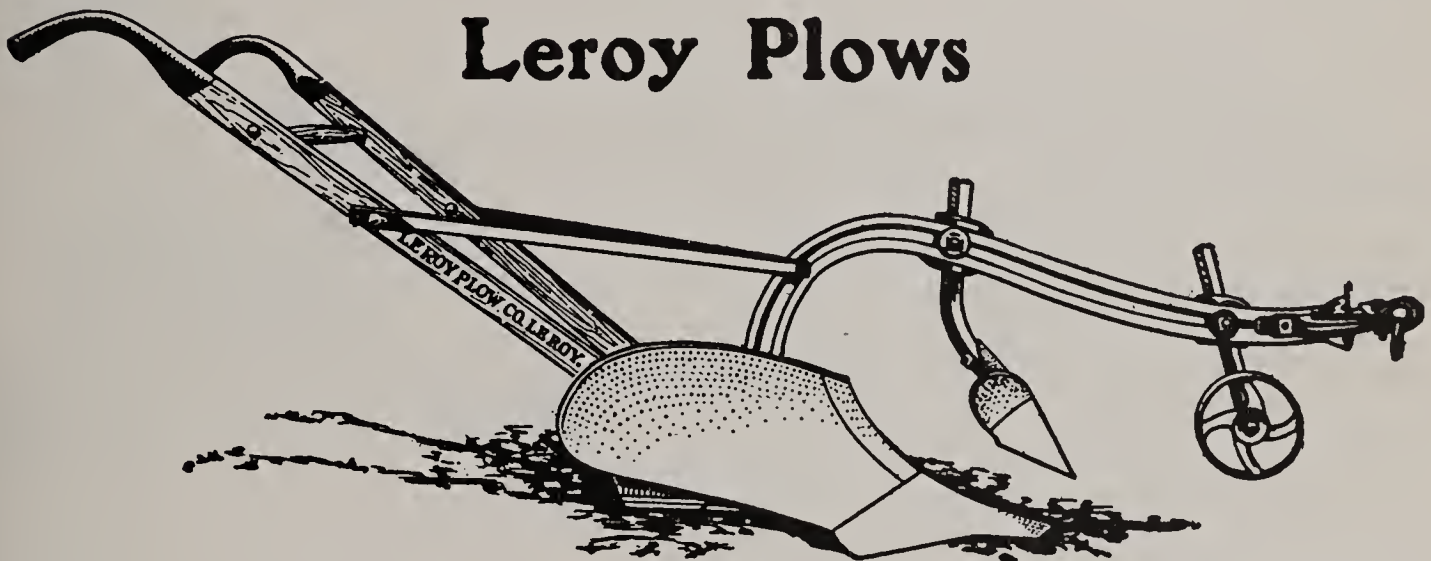


The strongest two-bottom tractor plow ever built. Beams, beam-bracing and other important parts are of the same great strength as similar parts built into larger John Deere tractor plows. Heavy-duty, constant power lift raises bottom to a constant height regardless of depth of plowing. 23-inch clearance from

beams to share-points insures freedom from clogging. Rolling landside carries rear weight on greased bearing—no dragging landside friction. Furnished with 12- 14- or 16-inch bottoms. For any farmer operating a "two-plow" tractor, the No. 4 is a mighty satisfactory plow.

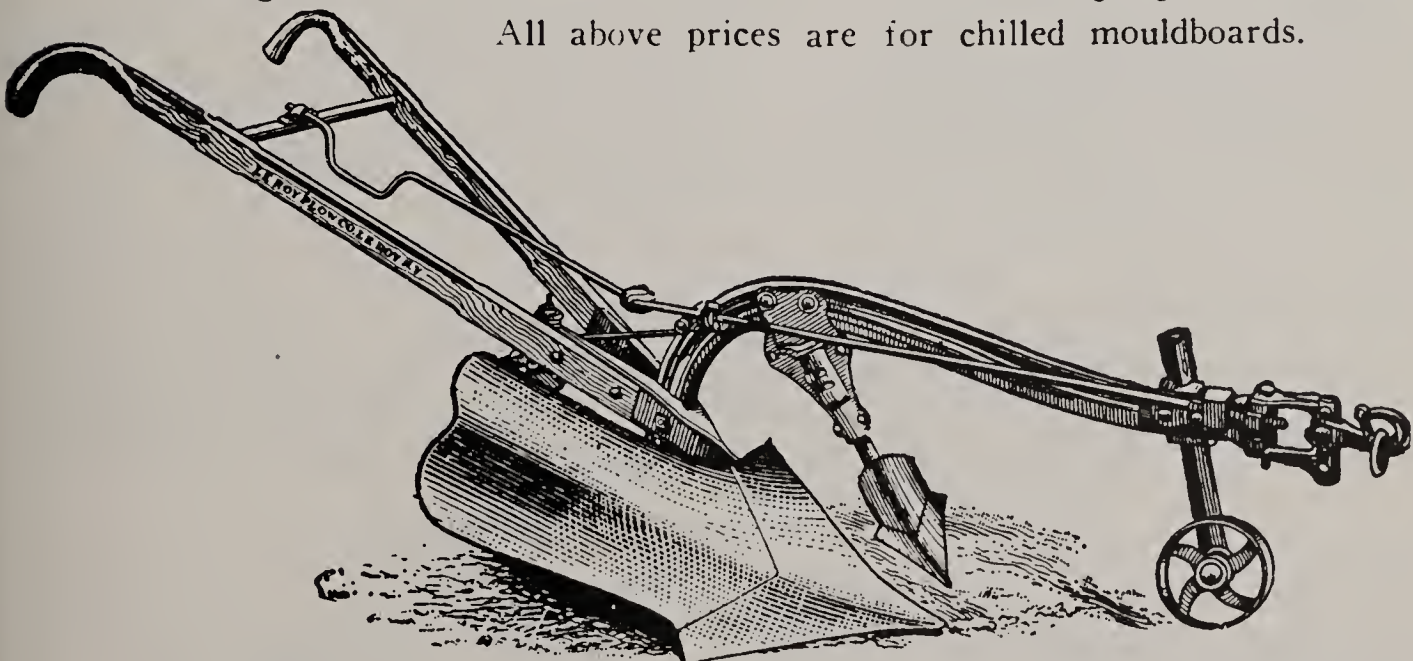
24" Cut (1442S Bottoms) Price \$120.00. **Net Cash Price.....\$114.00**
 28" Cut (1441S Bottoms) Price \$125.00. **Net Cash Price..... 118.75**

Leroy Plows



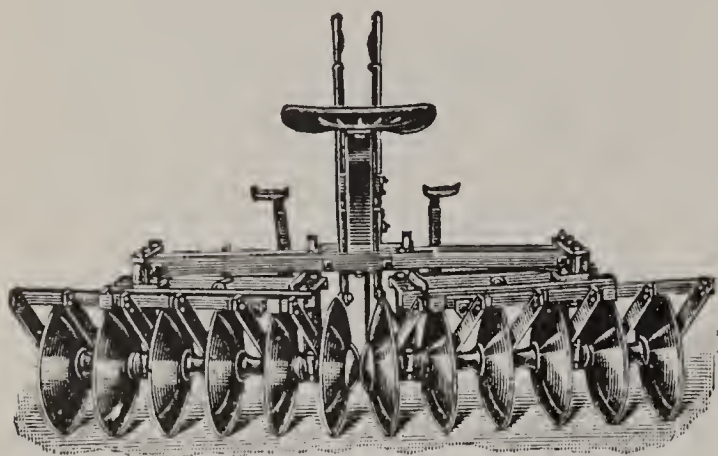
No.	Style	Trim	Price	Net Cash Price
107	1-horse	wheel only	\$18.65	\$17.72
108	Light 2-horse	full trim	25.90	24.61
109	Medium 2-horse	full trim	28.15	26.75
110	Large 2-horse	full trim	30.15	28.65

All above prices are for chilled mouldboards.



No. 30 — Capacity, 5 to 8 inches deep, 10 to 14 inches wide. Weight, plain, 110 lbs. Full rigged with jointer and shifting clevis as pictured. Weight, 165 lbs.
 Price with Steel Mouldboard \$33.65. **Net Cash Price \$31.97.**

Disc Harrows



OHIO — 12 - 16 Single Action

The construction of this Harrow is of the very best. It is all steel even the stub pole.

Price with Pole \$50.00. Net
Cash Price \$47.50.

Price with Foretruck \$58.00.
Net Cash Price \$55.10

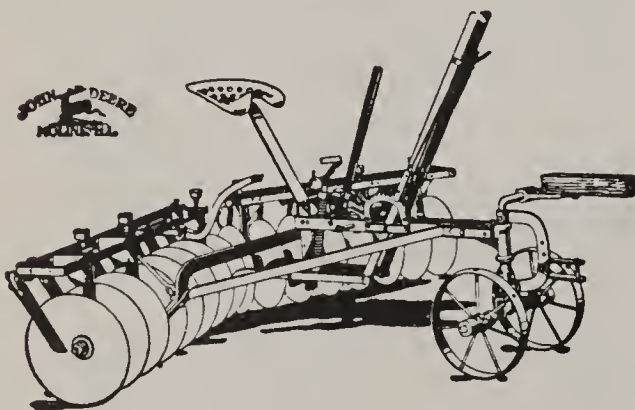
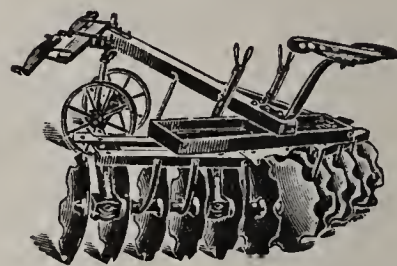
CLARK CUTAWAY Single Action

The Clark "Cutaway" single action harrow is reversible, that is, the gangs can be swung end for end, so that the soil may be thrown either out or in.

Price A-4 1-horse 8-16-inch discs \$45.00
Net Cash Price \$42.75.

Price A-6 2-horse 12-16-inch discs with pole \$55.00
Net Cash Price \$52.25.

Price A-6 2-horse 12-16-inch discs with foretruck \$63.00.
Net Cash Price \$59.85.



JOHN DEERE MODEL B

Extremely flexible, penetrates, pulverizes and packs the soil its entire width. Each gang works independently — one gang can pass over obstructions without lifting the other from its work.

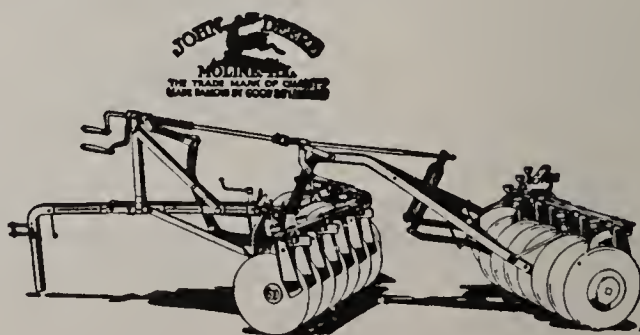
12-16-inch discs with pole \$55.00.
Net Cash Price \$52.25

12-16-inch discs with foretruck \$63.00.
Net Cash Price \$59.85

JOHN DEERE MODEL L FOR TRACTOR

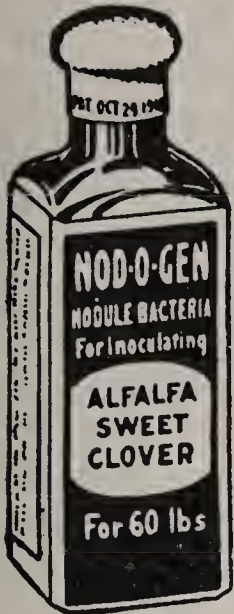
Front and rear sections are angled by independent cranks convenient to tractor operator, without backing or stopping harrow. Automatic yielding lock coupling, an exclusive feature, compels rear discs to cut ridges left by front gangs.

	Price	Net Cash Price
24-16 in. discs 6 ft. cut	\$110.00	\$104.50
28-16 in. discs 7 ft. cut	120.00	114.00
32-16 in. discs 8 ft. cut	130.00	123.50



NOD-O-GEN

The Best Inoculation for All Legume Seeds Means Better Crops



1-bu. size for Medium (Red) Mammoth, Alsike White Dutch, and Crimson Clovers	\$0.75
½-bu. size for above .....	.50
1-bu. size for Soy Beans .....	.50
5-bu. size for Soy Beans.....	2.00
1-bu. size for all Vetches (Field, Garden, and Sweet Peas) .	.50
1-bu. size for Field Beans and Garden Beans.....	.50
Garden size, Combination for Peas and Sweet Peas, Garden Beans and Limas .....	.25
1-bu. size for Alfalfa and Sweet Clover.....	.75
½-bu. size for Alfalfa and Sweet Clover.....	.50

John Deere Universal Steel Lever Harrow



The Universal is the ideal spike-tooth harrow for orchard or vineyard work because the end rails prevent the tooth bars from catching on trees or vines. A spring relief on each lever permits the harrow teeth to pass over roots, stones, or other obstructions without being damaged.

We can furnish the Universal in one, two, three, and four sections, with either 25 or 30 teeth to the section.

Price 2 section 60 tooth \$23.00.

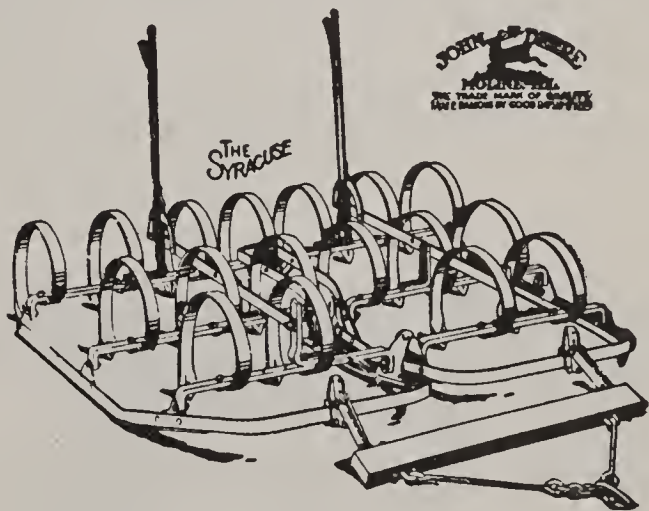
Net Cash Price \$21.85.

Syracuse Spring Tooth Harrow

Its special-process, *heat-treated* spring-steel teeth penetrate to a greater depth than any other type of harrow teeth. They tear out the weeds and leave the field smooth. The teeth are securely *clipped* to the tooth-bars — no bolt holes to weaken them.

There are no delays due to clogging when you use one of these harrows — frame is designed so that weeds and trash work out through openings between the sections.

We can furnish any number of sections you desire; also tractor hitch if you want it. Price 2 section 17 tooth \$27.00. Net Cash Price \$25.65.



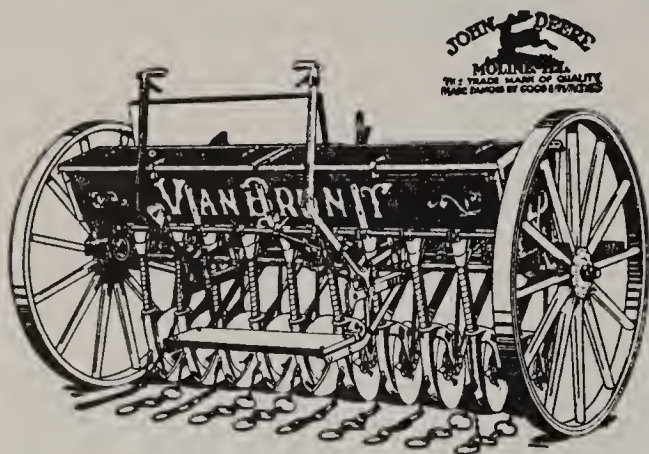
Acme Pulverizing Harrows



No. 8—4 ft. 4 in. cut for 1 horse.
Price \$23.00. Net Cash Price \$21.85.

No. 12—6 ft. 6 in. cut for 2 horses.
Price \$25.00. Net Cash Price \$23.75.

No. 12F—6 ft. 6 in. cut for 2 horses.
Price \$29.00. Net Cash Price \$27.55.



John Deere-Van Brunt Disc Fertilizer Drill With Grass Seed Attachment

Distributes any standard fertilizer and plants grain at the same time — also grass seed, when attachment is used; or it will handle any one of the three alone. All feeds can be thrown out of gear and discs used for stirring soil without seeding or fertilizing. Each wheel drives half the feeds, insuring positive and steady operation. One-half of grain feeds can be used for finishing a field or seeding narrow places. Van Brunt Ad-

justable Gate Force-Feed is one of the best seeding devices made. Drill handles fertilizer in quantities from 65 to 1250 pounds per acre. Plants wheat, oats, barley, flax, rye, rice, alfalfa, peas, beans, corn, etc.

Size 11 x 7 furnished regularly with 1 pole and 2-horse evener.

Price complete with grass seed attachment \$175.00.

Net Cash Price \$166.25.

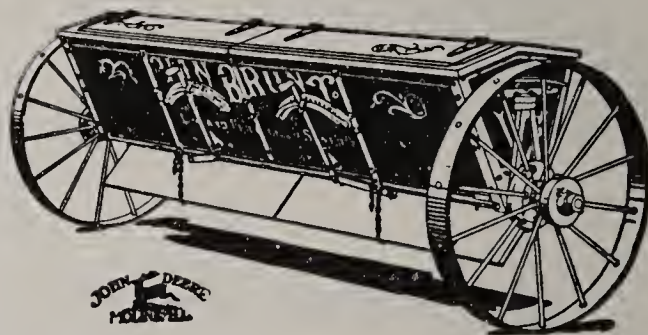
John Deere-Van Brunt Lime and Fertilizer Sower

Covers 8 feet of ground; carrying capacity 10 bu. Direct wheel drive — each wheel drives half the machine.

One of the best features of this sower is the simple feed control which enables you to distribute crushed lime rock, commercial fertilizers, and other materials in quantities from 150 to 8,000 pounds per acre. Half of the mechanism can be disengaged for sowing narrow strips.

Price \$81.00.

Net Cash Price \$76.95.



McWhorter Fertilizer Sowers

No. 34 shown in the cut is a low-down type machine, which is intended for use with one horse. It can be used for broadcast or between the row sowing.

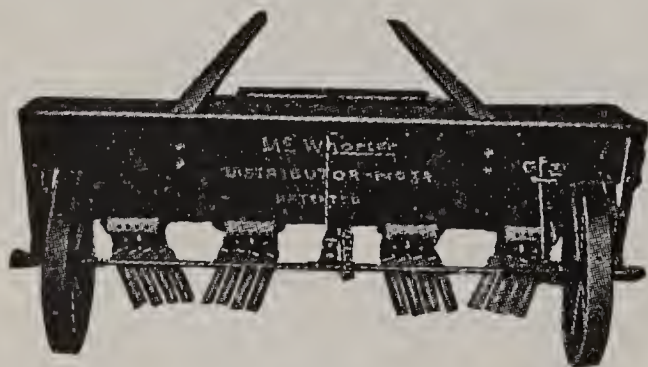
Price \$68.00.

Net Cash Price \$60.60

No. 26 is a two-horse machine, equipped with six sets of spouts, with a hopper capacity of 540 lbs., the extreme width is 9 ft.

Price \$93.50.

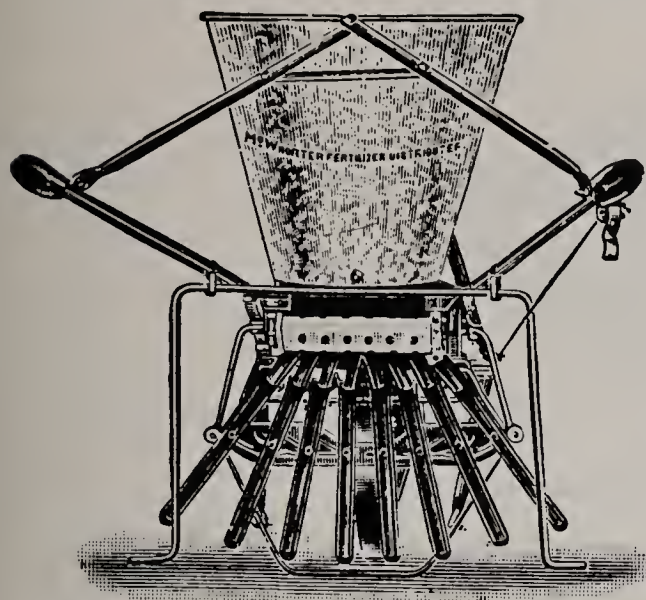
Net Cash Price \$88.83.



Nonpareil Broadcast Fertilizer Sowers

Specifications

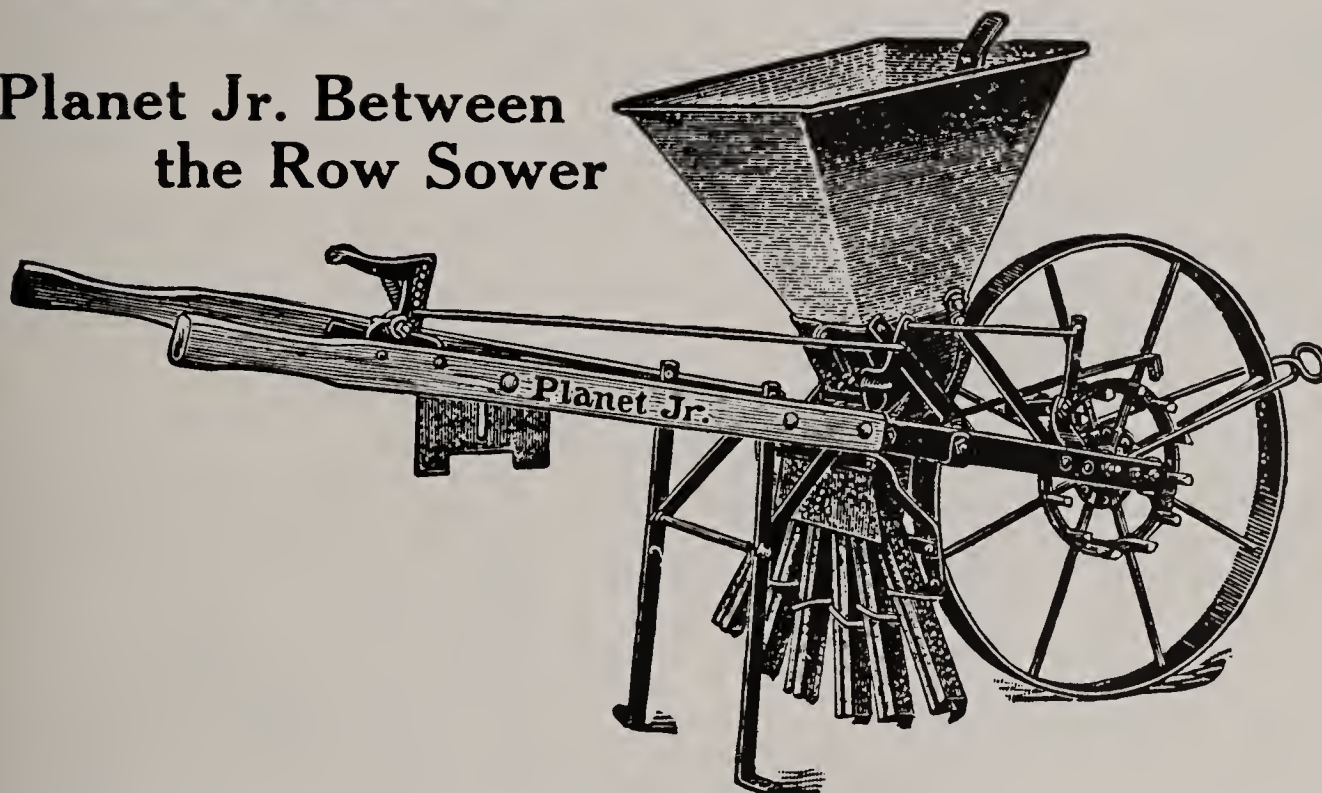
			Price	Net Cash Price
8 ft. Special, Capacity	15 bu.	2 Horse	\$65.00	\$61.75
5 ft. 3 in., Orchard, Capacity	10 bu.	1 Horse	60.00	57.00



No. 21 McWhorter Wheelbarrow Sower

This machine has the same positive belt feed as used on the larger McWhorter Sowers. Sows any quantity from a few pounds up to forty to the hundred yards of row, or from 200 lbs. to a ton per acre.
Price \$22.00. Net Cash Price \$20.90

Planet Jr. Between the Row Sower



Planet Jr. No. 220 Fertilizer Distributor will distribute fertilizer in the middles of three rows 12 to 14 inches apart; it will side-dress one side each of two rows up to 36 inches apart (one complete row; and corn in wider rows). You can use it in very narrow rows — as close as 9 inches.

Price \$26.00. Net Cash Price \$24.70.

Nos 230 and 230-A Fertilizer Distributor and Cultivator

These machines are great time and labor savers.

The one machine does three operations at once. It opens the furrow next to the row, puts fertilizer in it and then stirs it thoroughly into the soil.

This results in an absolute economy of fertilizer as none is lost through blowing away or leaching.

This new and improved method of applying a wide strip of fertilizer between the rows and thoroughly mixing with soil in one operation has the advantage of making the fertilizer available sooner, prevents loss and saves all the time usually consumed by a cultivation to work the fertilizer in.

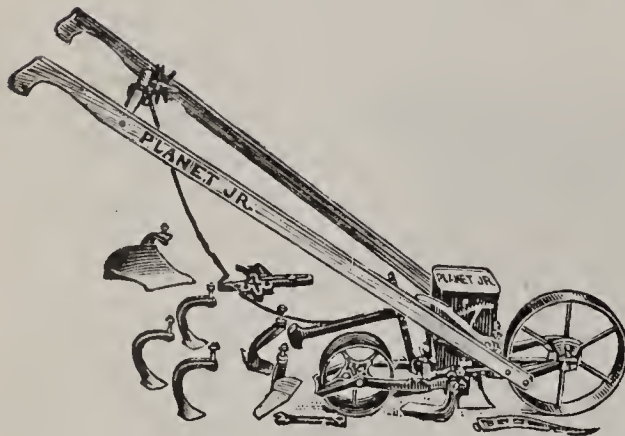
The two-wheel machine, No. 230-A is recommended for flat land work and the one-wheel for irrigated sections.

No. 230 Price \$35.00. Net Cash Price \$33.25.
No. 230A Price \$37.50. Net Cash Price \$35.63.



Planet Jr.

Seeders



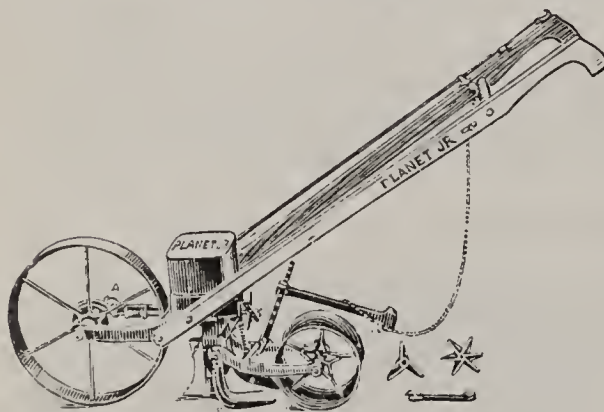
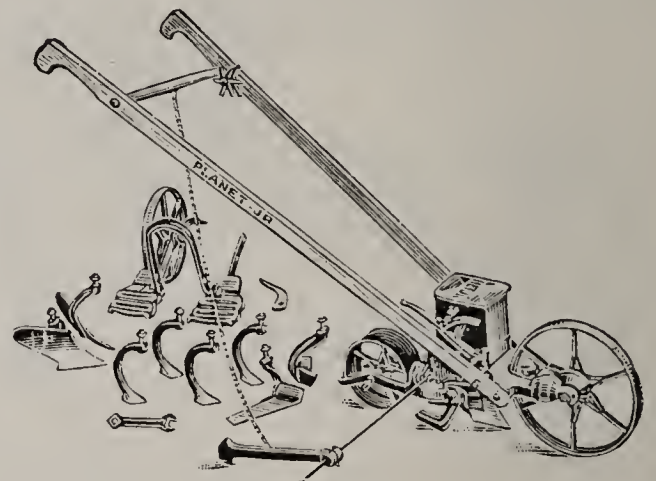
No. 4 Planet Jr. Combined Hill and Drill Seeder, Single Wheel Hoe, Cultivator and Plow. Very popular with owners of small gardens. Price \$16.75. Net Cash Price \$15.92.

No. 4D (seeder only). Price \$13.50
Net Cash Price \$12.83.

No. 25 Planet Jr. Combined Hill and Drill Seeder, Double and Single Wheel Hoe, Cultivator and Plow. Has long been known as the "Complete Gardener".

Price \$21.00.

Net Cash Price \$19.95.



No. 3 Planet Jr. Hill and Drill Seeder. For Market Gardeners, Onion Raisers and other large growers. Holds 3 qts.

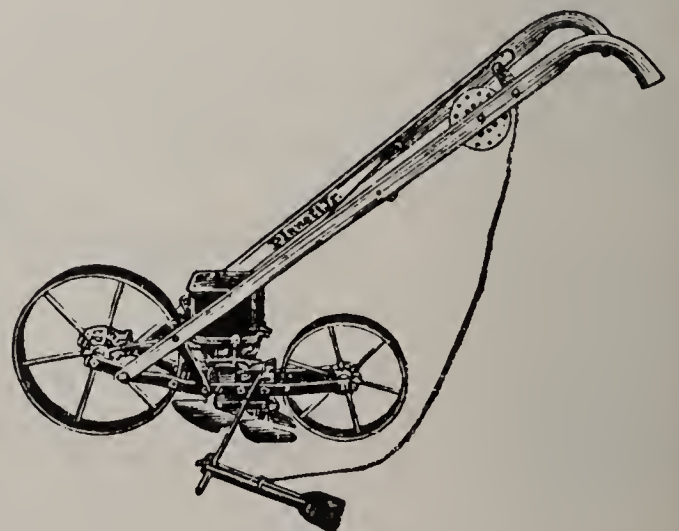
Price \$16.50.

Net Cash Price \$15.68.

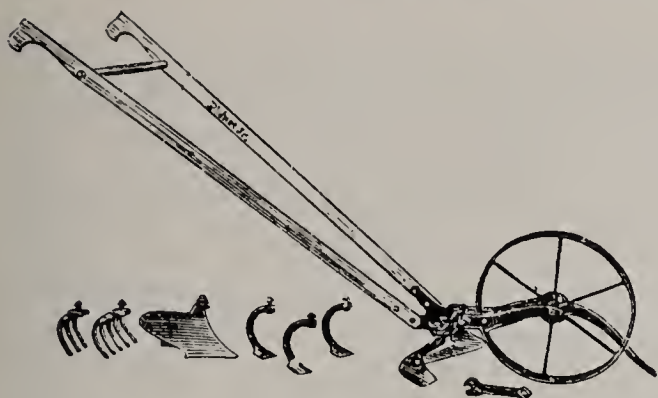
No. 300-A Planet Jr. Drill Seeder. There has always been a demand for a quality seeder which will sow through holes in a plate rather than through a variable diamond-shaped opening.

In response to this demand we present the No. 300-A Drill Seeder. It is designed primarily for use on light muck soil but so sturdily is it built that it is equally satisfactory on heavy loam or clay soils. Capacity 4 qts.

Price \$18.75 Net Cash Price \$17.82.



Planet Jr. Single Wheel Hoes



No. 16. Equipment (as shown): One pair of 6" hoes, three cultivator teeth, one garden plow, one 7" rake, one 4" rake, one leaf guard.

Price \$8.50. Net Cash Price \$8.08.

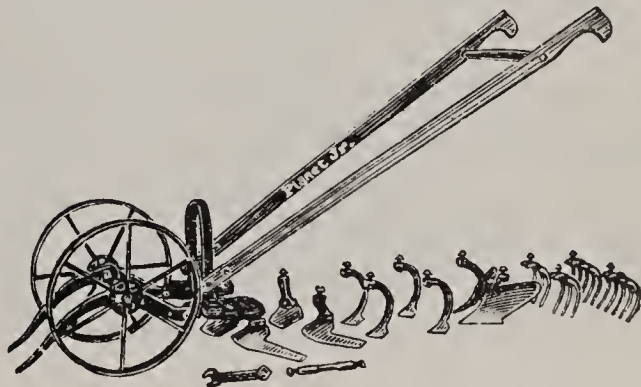
No. 17 Equipment—one pair 6 in. hoes, three cultivator teeth, one plow. Price \$7.35. Net Cash Price \$6.99.

No. 17½ Equipment—one pair 6 in. hoes, three cultivator teeth. Price \$6.40. Net Cash Price \$6.08.

No. 18 Equipment—one pair 6 in. hoes. Price \$5.50. Net Cash Price \$5.23.

Planet Jr. Double and Single Wheel Hoes Combined

No. 11. Equipment (as shown): One pair 6" hoes, one pair 4½" hoes, four steel cultivator teeth, one pair plows, two three tooth rakes, two five tooth rakes, two leaf lifters. Price \$13.00. Net Cash Price \$12.35.

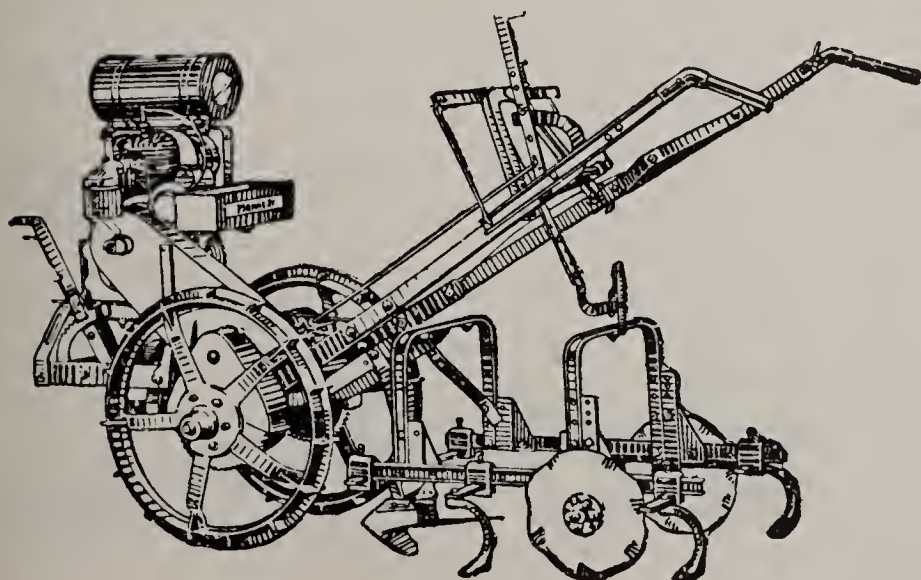


No. 12 Equipment—one pair 6 in. hoes, four cultivator teeth, one pair plows. Price \$10.25. Net Cash Price \$ 9.74.

No. 13 Equipment—one pair 6 in. hoes. Price \$7.60. Net Cash Price \$7.22.

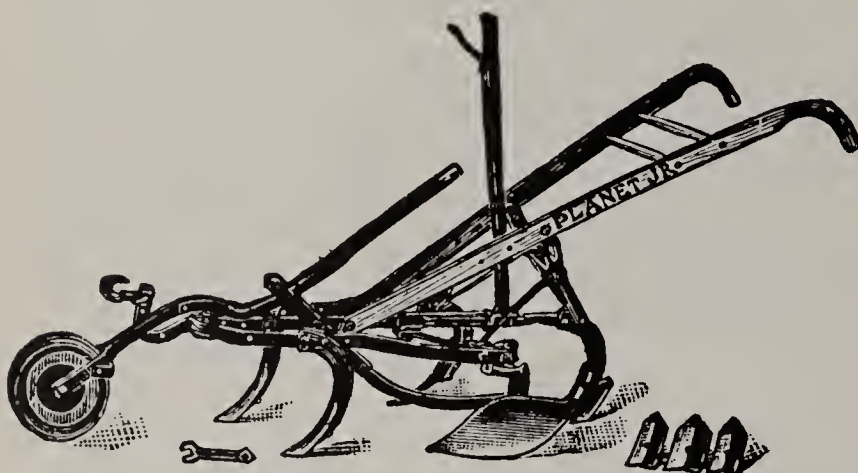
Planet Jr. Motor Cultivator

The Planet Jr. Motor Cultivator is built to do a wider range of work, to do more work with less effort on the part of the operator, to do faster, closer cultivation and to afford greater economy.



The primary purpose of such a tractor is cultivation of narrow row crops such as beets, carrots, onions, etc. Many farmers and home owners with extensive gardens, however, wish to do a wider range of work from light plowing to horse cultivation in wide rows. The Planet Jr. has been made heavy enough and powerful enough to do this work in a very efficient manner. It handles a six-inch plow easily.

Price on application

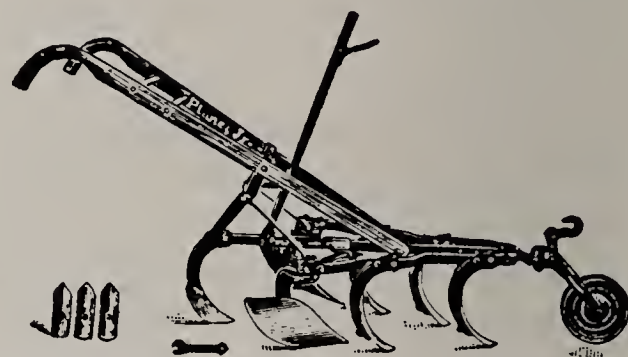


No. 8 Planet Jr. Horse Hoe and Cultivator. Equipment (as shown): Four 3 x 8 in. cultivator steels, one 4 x 8 in. cultivator steel, two 6 in. hillers, one 7 in. shovel, lever wheel, lever expander and depth regulator. Price \$14.70. Net Cash Price \$13.97.

No. 7 Planet Jr. Horse Hoe — Same as No. 8 but has no depth regulator. Price \$14.20. Net Cash Price \$13.49.

No. 9 Planet Jr. Horse Hoe — Identical with No. 8 except that it has a plain wheel instead of a lever wheel; and is without depth regulator. Price \$12.75. Net Cash Price \$12.12.

No. 82 Planet Jr. Horse Hoe and Cultivator Combined. Equipment (as shown): Seven 2¼ x 8 in. cultivator steels, one pair 6 in. hillers, one 7 in. shovel steel, lever expander. Can be equipped with lever wheel. Price \$14.25. Net Cash Price \$13.54.



No. 83 Planet Jr. Seven Tooth Plain Cultivator. Equipment (as shown): Seven 2¼ x 8 in. cultivator steels, lever expander. Is the most profitable one-horse cultivator to use. The seven teeth make possible finer cultivation than can be had with a five-tooth cultivator. Can be equipped with lever wheel. Price \$12.75. Net Cash Price \$12.12.

No. 90 Planet Jr. Twelve-Tooth Harrow, Cultivator and Pulverizer (as shown).

The teeth are 1¼ inches wide and wear well, being specially hardened. By using the lower hole, the teeth may be set to slant backwards for breaking the crust before the weeds begin to grow. Price \$15.50.

Net Cash Price \$14.73.

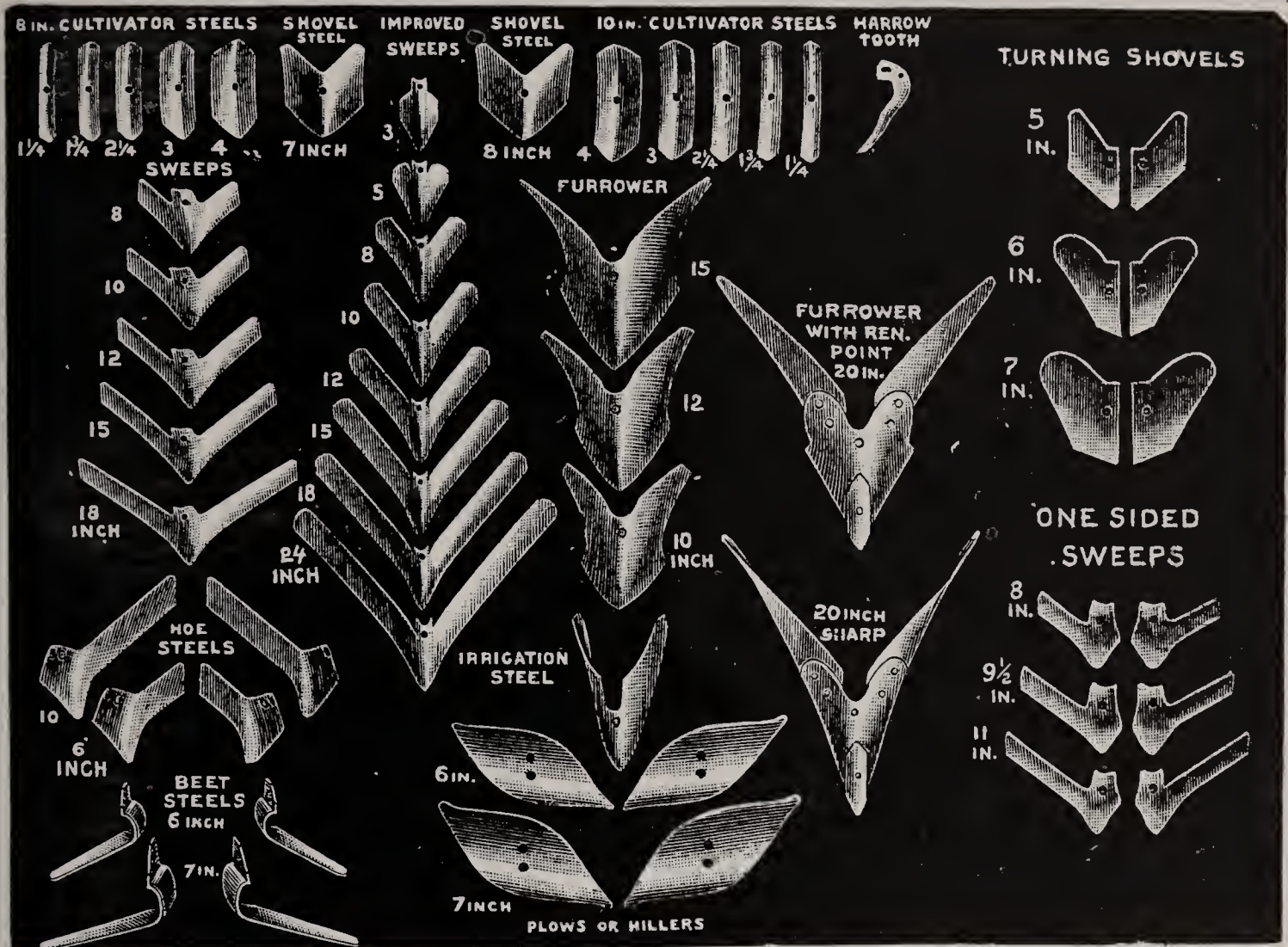
No. 90B. Less Pulverizer.

Price \$12.75.

Net Cash Price \$12.12.



"PLANET JR."



Varieties of Steel Plates made for the "Planet Jr." Horse Hoe.

The 1 1/4 inch steels throw almost no furrow, and run very deep, yet work beautifully as cultivating teeth and subsoilers, very desirable where the soil is to be broken up thoroughly without hilling, as where the ground is clean, but beaten down by rains, or baked by the sun. The next two sizes, 1 3/4 and 2 1/4 inch, are desirable for general cultivation, and do superior work in hard lands. The next is 3 inch; this is the size, with one 4 inch for the rear standard, which is sent out with the Horse Hoe, unless otherwise ordered, being best adapted to general work in all kinds of soil.

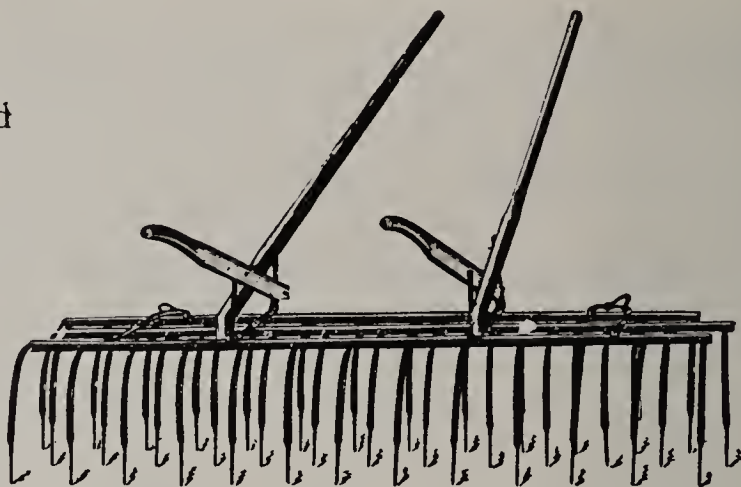
1 1/4 x 8 inch Steels,	\$0.15	12 inch Improved Sweeps,	\$0.82
1 3/4 " " " " . . . . .	.18	15 " " " " . . . . .	.97
2 1/4 " " " " . . . . .	.20	18 " " " "	1.27
3 " " " " . . . . .	.22	24 " " " "	2.72
4 " " " " . . . . .	.27	6 inch Hillers, . . . . .	.65
7 " " Shovel Steel, . . . . .	.35	7 " " " " . . . . .	.80
8 " " " " . . . . .	.40	6 inch Hoe Steels, . . . . .	.65
Bolts, 4c each, 40c doz.		10 " " " " . . . . .	.75
8 inch Sweep (regular) . . . . .	.43	10 " Furrower,	1.00
10 " " " " . . . . .	.46	12 " " " "	1.35
12 " " " " . . . . .	.52	15 " " " "	1.75
15 " " " " . . . . .	.70	20 " Furrower, old style,	
18 " " " " . . . . .	.85	with wings	3.25
24 " " " "	2.00	20 " Furrower, new style,	
8 inch Improved Sweeps, . . . . .	.57	with wings	3.25
10 " " " " . . . . .	.67	Pulverizer for Harrow Special,	3.75

Improved Sweeps do not fit Horse Hoe Side Standards.

Hallock Pattern Weeder

A Standard Weeder having curved teeth.

Price \$15.80.
Net Cash Price \$15.00.



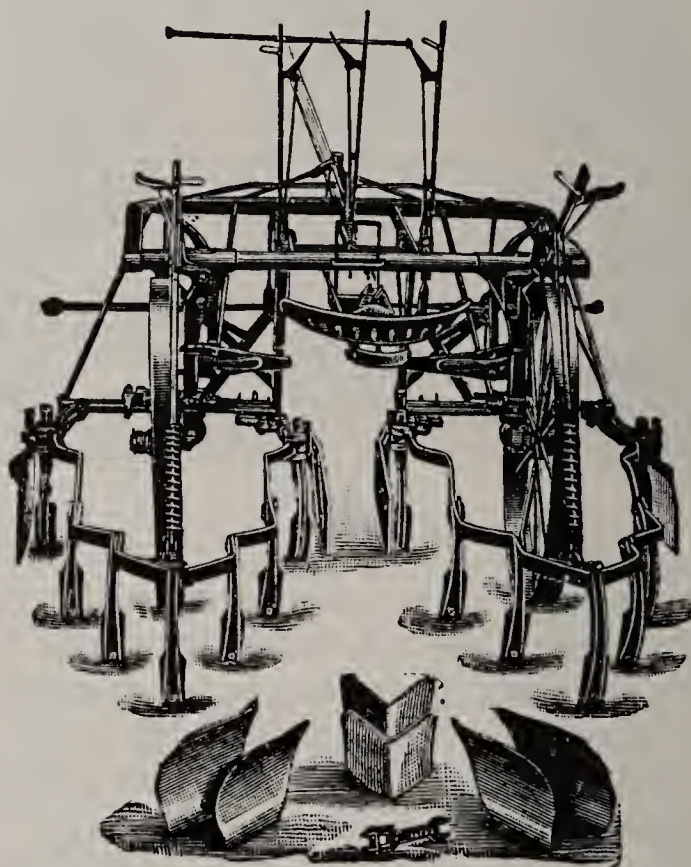
Planet Jr. Pivot Wheel Cultivators

The No. 72 as shown has five levers, and they simplify its control so that a boy can operate it with success. The center lever adjusts the hinged tongue regulating the depth of the front teeth and leveling up the machine to suit all heights of neck yoke. The outside levers regulate the depth of the teeth in the rear, while intermediate levers are used in changing the widths of the gangs to suit irregular planting without stopping the team.

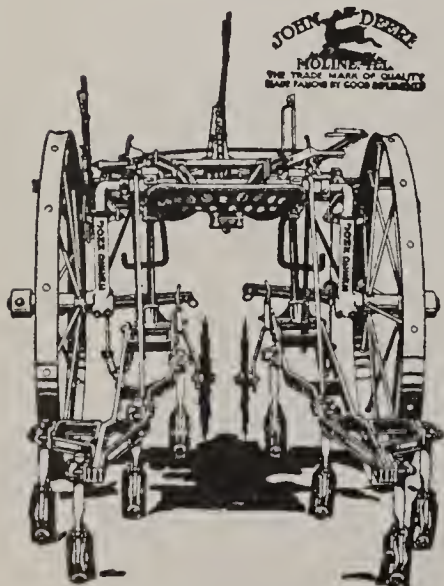
Price \$91.25
Net Cash Price \$86.69

The No. 76D Single row works rows 28 to 48 inches apart. The gang frames are extra heavy, but improved levers with lifting and depth regulating springs make for easy, perfect control.

Price \$63.80
Net Cash Price \$60.61



John Deere K. C. Cultivator



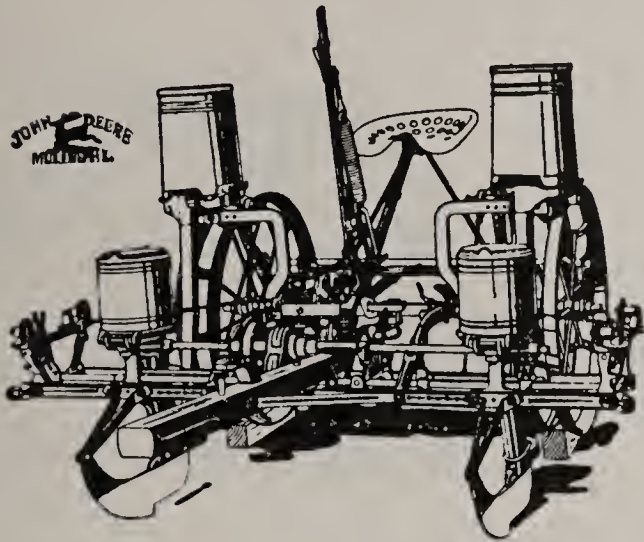
It's easy to kill the weeds and work all the soil between the rows with the John Deere K.C. Cultivator. The K.C. is easy to handle—the rigs are always parallel—shovels always point straight ahead and cut out full width.

Light draft, good work, and typical John Deere quality make the K.C. a popular cultivator wherever used.

We can furnish the K.C. with any type of rigs you require.

Price 8 shovel pin break \$61.00. Net Cash Price \$57.95.
Price 8 shovel spring trip \$69.00. Net Cash Price 65.55.

JOHN DEERE No. 999 CORN PLANTER



Widely recognized as the most accurate planter on the market. The John Deere Natural Cell-Fill, Edge-delivery seed plates, sloping hopper bottom, improved metal cut-off and knocker insure positive feed and unfailing accuracy. Plants accurately whether the hopper is full or nearly empty. Seed plates for handling every kind of corn; also beans, and many other seeds. Variable drop plants two, three or four kernels in each hill as desired. The number of kernels per hill can be varied merely by shifting foot lever, without stopping the machine. Also varies the distance in drilling. Easy to

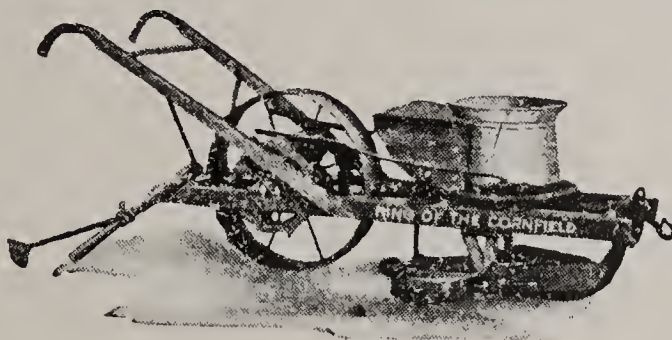
change from hilling to drilling. Underhung reel; a touch of the toe releases check wire, fertilizer can be checked with each hill or drilled along the row.

Price complete with fertilizer attachment and check row \$115.00.

Net Cash Price \$109.25.

Price plain \$75.00. Net Cash Price \$71.25.

King of the Cornfield Corn Planter



**The Segment
One-Hand
Corn Planter**

This light-draft Planter is adapted to every requirement and easily operated with one horse. Suitable seed-plates are furnished for dropping corn, beans, peas, beets, and similar seeds. The seed-dropping device is absolutely positive and cannot miss or skip hills spaced $4\frac{1}{2}$, 9, 12, 18, 24, 36, or 72 inches apart. The seed-box is made with two compartments, permitting two kinds of seed to be dropped alternately, such as corn and beans or other seeds. The fertilizer hopper is made of galvanized iron and so arranged that the seeds do not come in direct contact with the fertilizer.

Price \$43.00. Net Cash Price \$40.85.

Stanley's CROW REPELLENT

Protects seed corn from crows, black-birds, squirrels, woodchucks, moles, wire-worms and grubworms, saving from loss of seed and labor of replanting. Not poisonous, does not injure the seed corn and does not clog the planter. Small can (treats a bushel of seed corn) 60¢; large can (treats 2 bushels) \$1.00.



Lightest, most accurate, strongest & most up to date planter on the market. All parts are interchangeable.

Price \$2.25

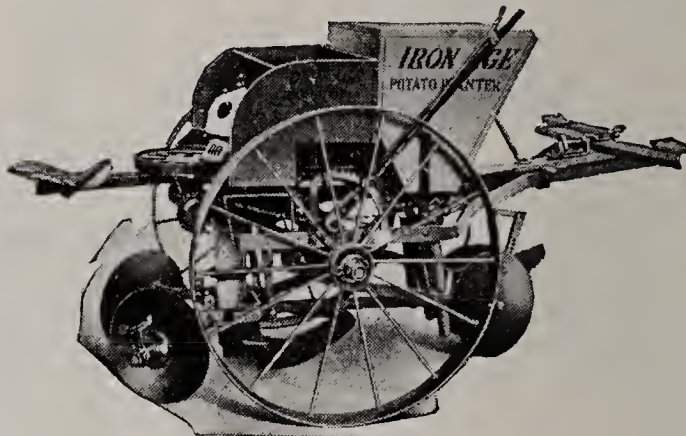
IRON AGE POTATO PLANTERS

ONE-ROW, Assisted-Feed Planter

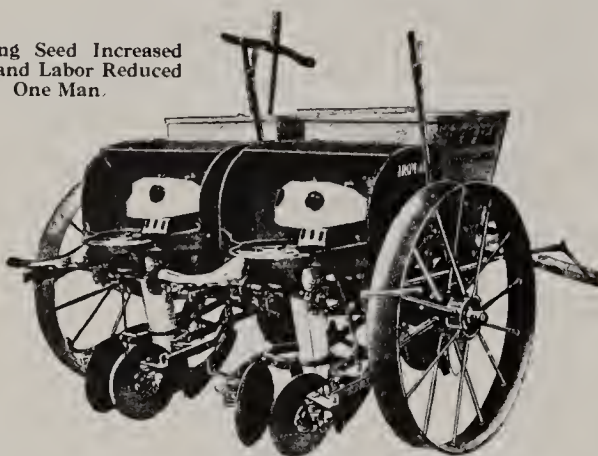
For many years it has been conceded that in its ground performance the Iron Age Planter exhibits the highest degree of perfection ever attained. By Iron Age ground performance is meant the opening of furrow, distributing of fertilizer, placing of the seed safely out of touch of the fertilizer and finally ideal covering and ridging. Equipped for large seed.

Price as shown \$148.00

Net Cash Price \$140.60.



Planting Seed Increased
100% and Labor Reduced
One Man.



Two-Row Assisted-Feed Planter with Fertilizer Distributor
No. 432-R for seed up to 2 ounces; 434-R for seed over 2 ounces

THE TWO-ROW Assisted-Feed

Planter—has become very popular with the larger grower—not only because of the increased speed of planting but because it eliminates the use of one man (another driver) when using two one-row Assisted-Feed Planters, as only one driver is required. It is strongly constructed and braced with heavy angle irons, firmly bolted together, which carry all the center weight without placing strain on the axles.

It is supplied in two ranges of four width adjustments. For rows 30, 32, 34 and 36 inches or 36, 38, 40 and 42 inches. Size wanted must be specified when ordering.

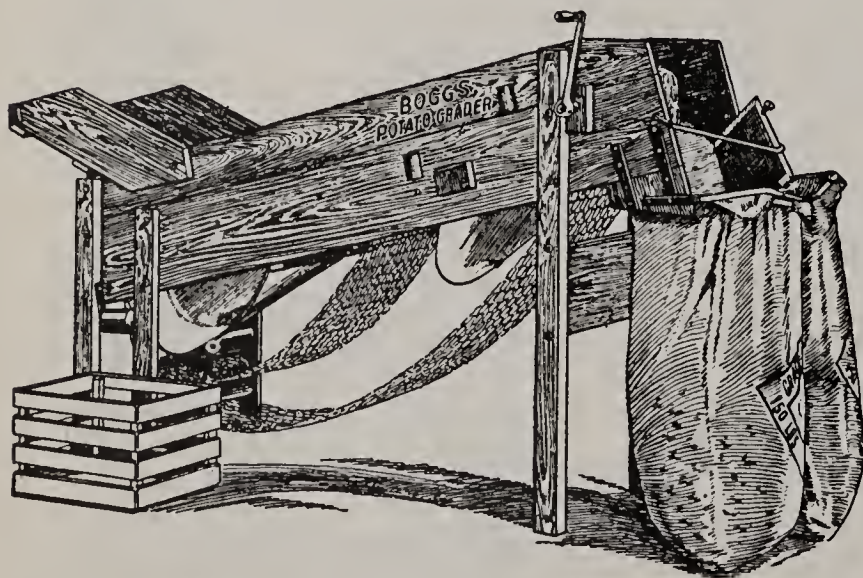
Price complete, as shown.....\$300.00

Net Cash Price 285.00

HOOVER POTATO CUTTER

This cutter meets the general demand for a first-class potato cutter. Provision is made to cut either large or small potatoes into the proper number of pieces.

Price \$20.00. Net Cash Price \$19.00.



BOGGS STANDARD HAND POTATO GRADER

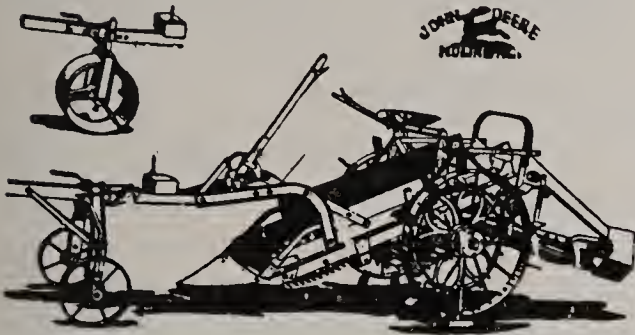
Boggs No. 3 machine permits long or round potatoes to be sorted and graded into No. 1 and No. 2 sizes with less than 3% variation in size from government grades, and cleans them of all dirt, trash and culls in one operation. No. 3 hand grader as illustrated has a capacity of 150 bushels per hour.

Price \$65.00.

Net Cash Price \$61.75.

When large quantities of potatoes are to be graded, the power equipments will be found most advantageous. They not only have much greater capacity than the hand machine, but effect a big labor saving. Prices on application.

JOHN DEERE-HOOVER POTATO DIGGERS



The famous mechanical diggers dig the potatoes, dirt-free and unbruised. Shovel, of crucible plow-steel, scours and works in varied conditions without bending or breaking. Main sides are built up of two steel angles riveted together—much stronger than single-angle construction.

Furnished in one- and two-row sizes with ground engine or tractor drive, with equipment to meet your requirements.

No. 1522K Gear-driven 5½ ft.-22 in. rod elevator with extension elevator, 2 horse hitch. Built for the farmer with a small acreage.

Price \$123.00. **Net Cash Price \$116.85.**

No. 622N—6 ft. 22" rod elevator, rear rack and vine separator, 2 horse hitch. Price \$148.00. **Net Cash Price \$140.60.**

No. 622S—6 ft. 22" with continuous elevator, 2 horse hitch. Price \$144.00. **Net Cash Price \$136.80.**

No. 4724S—7 ft. 24" with continuous elevator, fitted with New Way Twin Engine, 2 horse hitch. Price \$415. **Net Cash Price \$394.25.**

No. 6724S—Tractor Driven, One Row, 7 ft. 24 in. with continuous elevator, power drive attachments and transmission. Price \$300.00. **Net Cash Price \$285.00.**

No. 6726S—Tractor Driven One Row, 7 ft. 26 in. with continuous elevator, power drive attachments and transmission. Price \$315.00. **Net Cash Price \$299.25.**

No. 35724S—Tractor Driven Two Row, 7 ft. 24 in. with continuous elevator, power drive attachments and transmission. Price \$485.00. **Net Cash Price \$460.75.**

Farquhar Success Jr. Potato Digger

The most popular plow-type digger on the market. Just the digger for the small grower—in fact no farmer can afford to be without this digger even if he raises only sufficient potatoes for his own consumption. In time and labor saving it pays for itself the first season.

Price \$16.00.
Net Cash Price \$15.20.



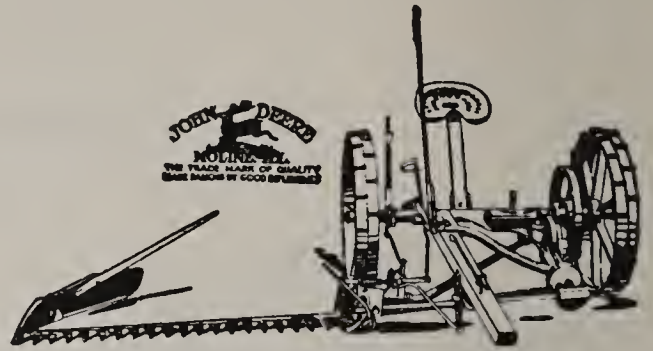
John Deere High Lift Mower

One Horse, Price \$75.00.

Net Cash Price \$71.25.

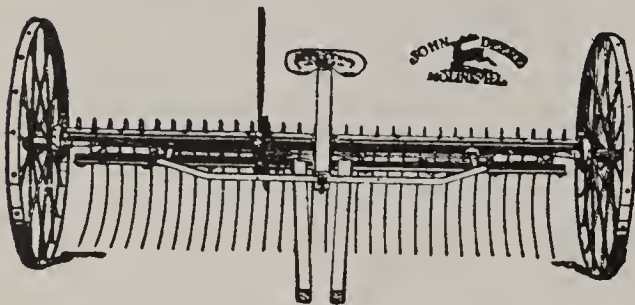
Two Horse, Price \$77.00.

Net Cash Price \$73.15.



An extremely simple mower with a high, easy lift. Bar raised with foot lift amply high to pass over ordinary obstructions, with hand lift bar raised extremely high. A boy can operate it. Special arrangement of simple driving gears prevents side strain and undue wear on bearings. Maximum power delivered to carefully-made and accurately-fitted knife. Location of pinion on crank shaft prevents end thrust. Bar attached to wide yoke insures instant starting. Cutter bar floats and has great flexibility. All adjustments and repairs quickly and easily made with ordinary tools.

New John Deere — Steel Sulky Rake



The rake that gives years of service. Wheels interchangeable, and dump rods reversible, giving extra wear without repair expense. There is no hay too heavy or too light for the John Deere Sulky Rake. It will do the kind of work desired under all conditions.

Price 8 ft. with end guard teeth \$45.00.

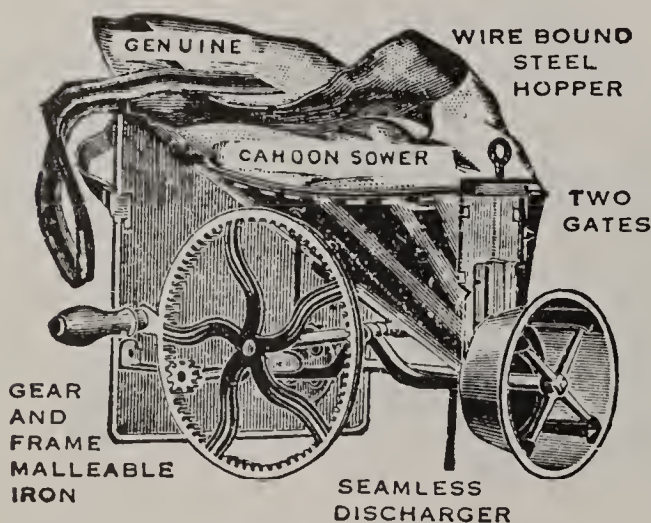
Net Cash Price \$42.75.

Thompson Wheelbarrow Seed Sower

Sows timothy, clover, alsike, alfalfa, millet, turnip and various other seeds. Price 14 ft. \$15.80. Net Cash Price \$15.00. Grain box for above \$10.00.



Cahoon Broadcast Seed Sower



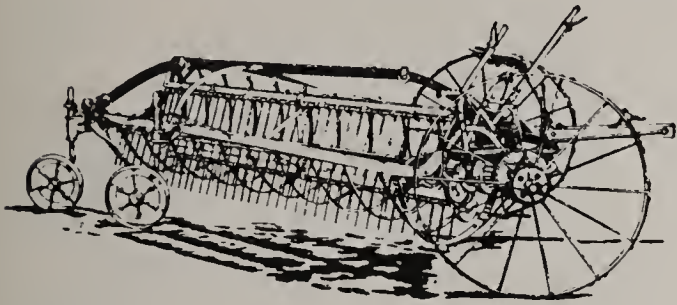
Price \$5.00 Net



Cyclone Broadcast Seeder

Price \$2.50 Net.

John Deere-Dain Combination Rake



For the man who desires a combination rake, this machine will do satisfactory work. Moving one lever changes machine from rake to tedder. Angle of teeth easily changed, and either end of reel raised or lowered independently. Has ample clearance for heavy hay or large windrows. Left-hand wheel can be set in for turning windrows

Price \$130.00.

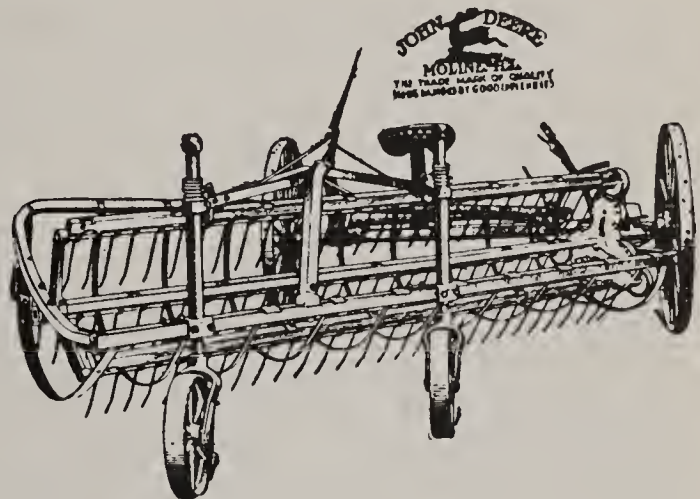
Net Cash Price \$123.50.

John Deere-Dain System Rake For Air-Curing Hay

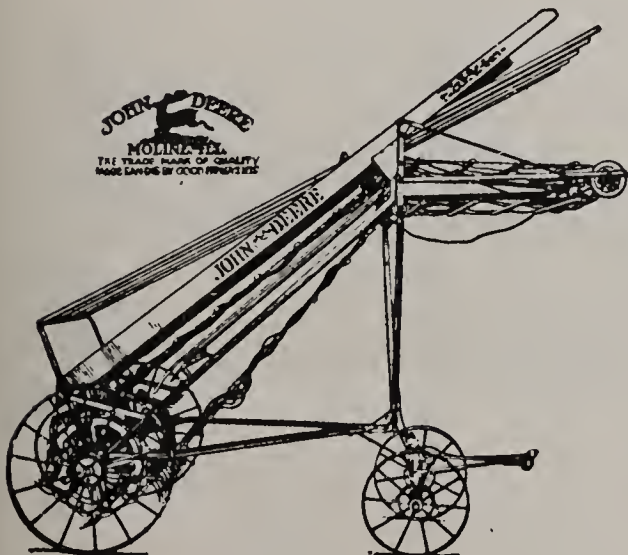
This rake aids the hay-grower in producing hay that brings the highest market price. Air cures hay without loss of color, foliage or feeding value when used according to the John Deere-Dain System of Air-Curing Hay. Rake follows mower while leaves are still active and lays the hay in loose, fluffy windrows, leaves inside, butts out. The foliage thus protected cures properly, does not get brittle and break off. Inclined frame gives greater capacity as volume of hay increases. Curved teeth lift hay gently — no dragging or threshing. All adjustments are made from the seat.

Price \$125.00.

Net Cash Price \$118.75.



John Deere Single-Cylinder Windrow Hay Loader

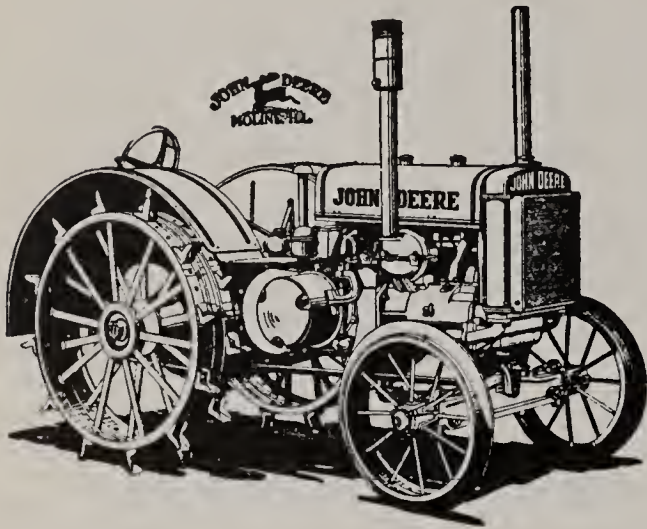


Very light draft and minimum number of working parts. Single drum mounted directly on the axle. Hinged carrier makes loading easy in windy weather. Furnished regularly with forecarriage — no lifting is necessary when coupling to wagon. Extra strong, well braced frame with hot-riveted corner plates. Gets all the hay when properly raked into windrows. Handles alfalfa and clover without knocking off valuable foliage parts. Capacity ample for all side-rake windrows. Made in 6 foot width with forecarriage.

Price \$130.00.

Net Cash Price \$123.50.

JOHN DEERE MODEL D TRACTOR For the Heavier Farm Jobs



Here is real power to do your heavier farm jobs—the plowing, disking, combining, threshing—in big volume. In the John Deere Model D Tractor you get low-cost power, long-lived power—simple power—that you can use more days during the year for more years, with real satisfaction and extra profit.

Double air cleaner permits only clean air to reach cylinders—John Deere Tractors give long and continuous service under most severe dust and dirt conditions.

Filtering of air, fuel and oil before reaching the engine is a safety measure that reduces wear and lengthens the life of John Deere Tractors.

All parts are readily accessible for inspection and adjustments from the outside of tractor—and in a standing position.

Delivered Price \$1165.00 Net Cash Price \$1106.75.

JOHN DEERE GENERAL PURPOSE TRACTOR

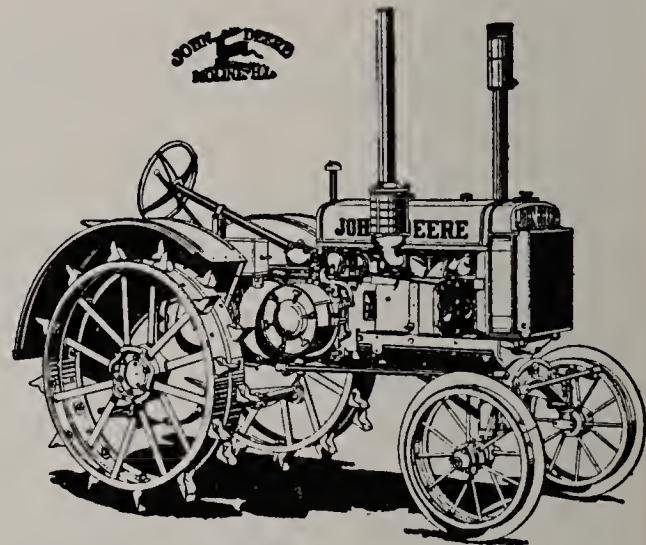
Thousands of farmers are now profiting from the use of the John Deere General Purpose Tractor and its equipment. For thousands of other farmers the equipment will make possible a better, more profitable method of farming.

This is the tractor that will do all farm work within its power including planting and cultivating and do every job well.

The row-crop farmer can now utilize mechanical power in a practical, money-making way.

The field of corn that required six days in planting can now be planted in three days or less. It would require a crew of four or more men and eight or more horses, with single-row cultivators, to cultivate the same acreage one man can cultivate with this John Deere General Purpose outfit.

Delivered Price \$895.00 Net Cash Price \$850.25.



JOHN DEERE MODEL A GENERAL PURPOSE TRACTOR

Here is John Deere's latest contribution to the great farming industry—the new John Deere Model A General Purpose Two-Plow Tractor. This Model A is a brand new tractor—new in its greater adaptability—new in its wider range of utility—new in the array of outstanding features it contains—new in greater economy of operation.

Adjustable Rear Wheel Tread

The tread on the John Deere Model A is adjustable on the rear axles from 56 inches to 80 inches, with any desired setting in between.

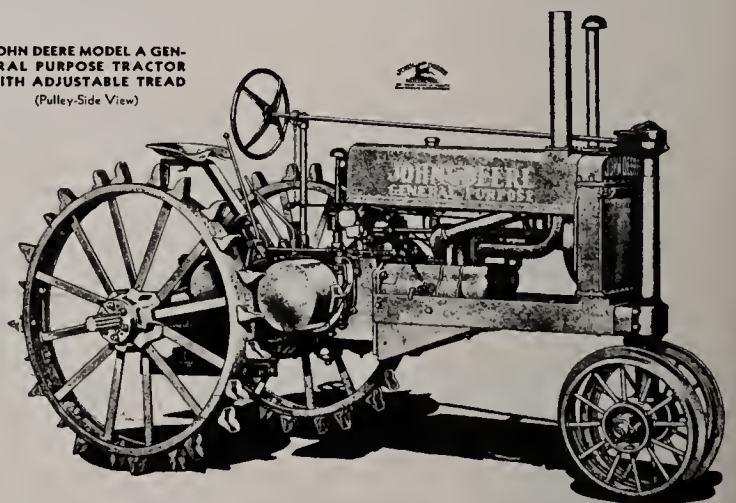
You can adjust the tread on the John Deere Model A Tractor to fit with exactness every row-crop job and other work on your farm.

Model A with power shaft. Delivered Price \$905.00. Net Cash Price \$859.75.

Model A with power shaft & power lift. Delivered Price \$950.00.

Net Cash Price \$902.50.

JOHN DEERE MODEL A GENERAL PURPOSE TRACTOR WITH ADJUSTABLE TREAD (Pulley-Side View)



FIRESTONE TIRES, RIMS and WHEELS NOW AVAILABLE for:

MAKE	FOUR WHEEL	ROW CROP OR WIDE TREAD
Allis Chalmers	Model U	Model UC
J. I. Case	Model C	Doall CC
John Deere	Model GP	GP Wide Tread
McCormick Deering	Model 10-20	Farmall F-20
Twin City	Model KT	Universal
Oliver	Model 18-28	
Fordson	All Types	

Wheels and tires are available for other makes and models of tractors on special order.

Rear wheels are of the rod spoke type, consisting of twelve 3/4" spokes mounted in staggered form in a cast steel hub and securely riveted into well of the rim. It is necessary to have a different wheel for each make or type of tractor because of the variations in hub mounting.

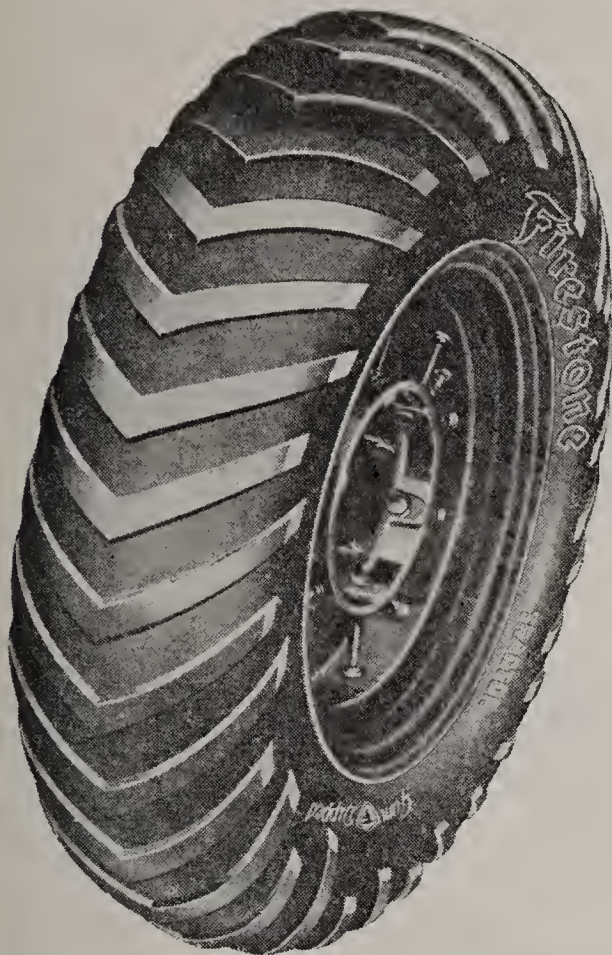
Front wheels are of either the rod spoke or disc type. They are furnished completely assembled and ready to mount except bearings which must be removed from old wheels.

Both front and rear tires have the patented construction features of Gum-Dipped Cords and Two Extra Gum-Dipped Cord Plies under the Tread. Extra Values that give Extra Strength and Extra Safety.

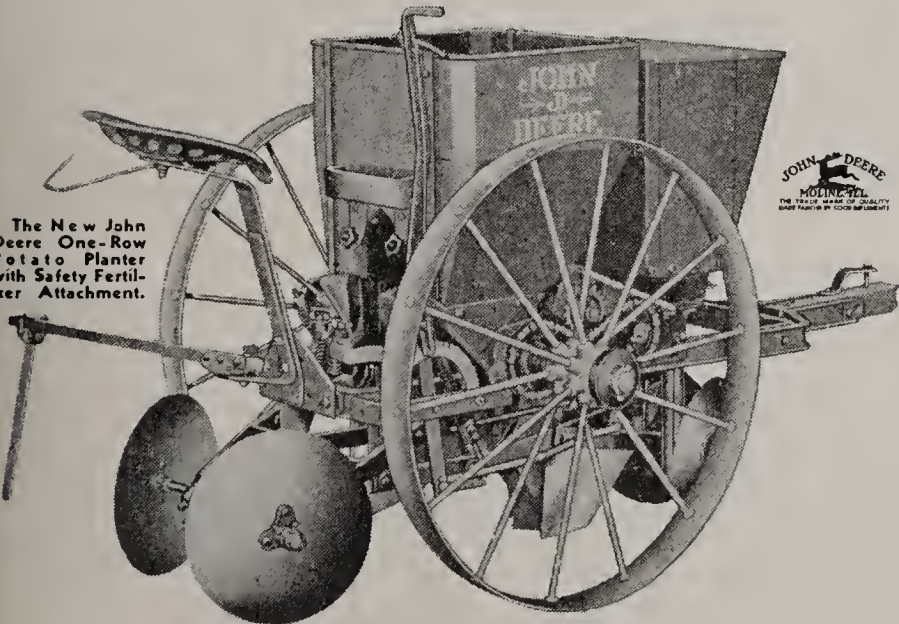
Price on application.

SPECIFICATIONS

SIZE	Gum-Dipped Cord Plies Under Tread	Rim Size	Cross. Sec Diam.	Overall Diam.	Capacity Pounds	Inflation Pressure
6.50-16	6	4.50-D-16	6.73	29.20	615	*12-16
11.25-24	8	7.33-T-24	11.63	46.67	2000	12



The New JOHN DEERE Potato Planter



The New John Deere One-Row Potato Planter with Safety Fertilizer Attachment.

Safety Fertilizer

Highly efficient fertilizer equipment, with leak-proof hoppers, handles fertilizer in practically any quantity desired, in just the way you want it handled and at the desired depth.

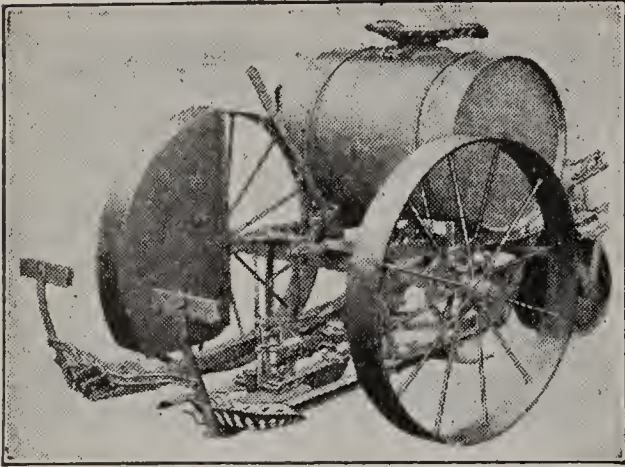
One- and Two-Row Styles

The New John Deere is made in one- and two-row styles for operation with horses or tractor. The two-row offers the same advantages of construction as the one-row. One lever controls the lifting and lowering of both units. Further provision is made for throwing either one or both units out of gear.

Two-row planters are furnished in these two sizes: adjustable for 30-, 32-, 34- and 36-inch rows, and adjustable 36-, 38-, 40-, and 42-inch rows.

One Row with fertilizer attachment—Price \$148.00. Net Cash Price \$140.00
Two-Row " " " " " 280.00. Net Cash Price 266.00

New Improved Tiger Transplanter



The lifting lever works on an eccentric. A child can lift the weight of two men and when the lever is operated it automatically throws machine out of gear.

Simply and strongly made with these new improvements this machine is rapidly coming into favor with discriminating buyers. This machine has 1 1/2 inch water connections. The flow of water is under perfect control and can be regulated to deposit as small a quantity as desired, or to discharge one pint to each plant.

Price \$110.00

Net Cash Price \$104.50

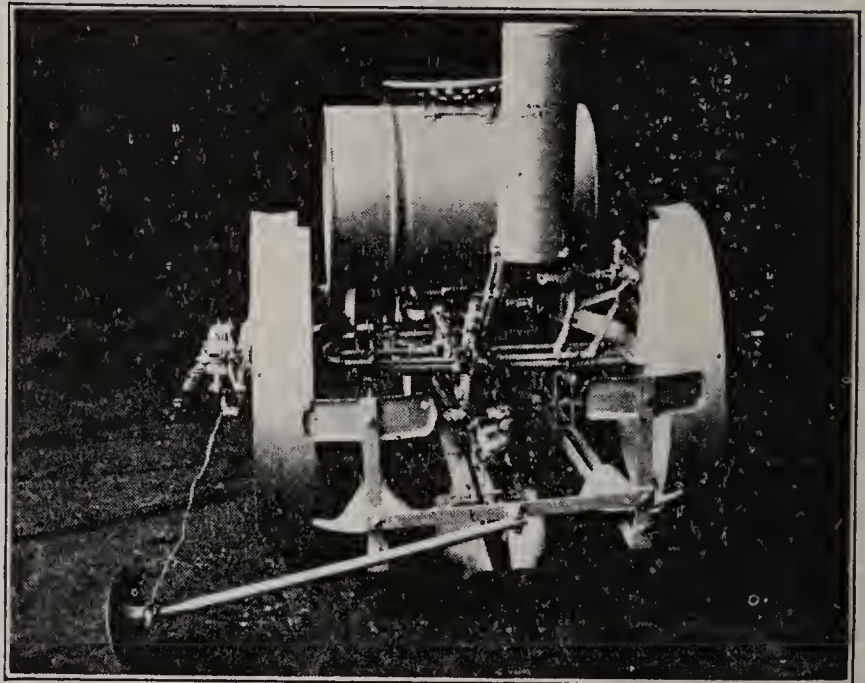
Bemis Transplanter

Thirty-five years of practical experience is embodied in the Bemis.

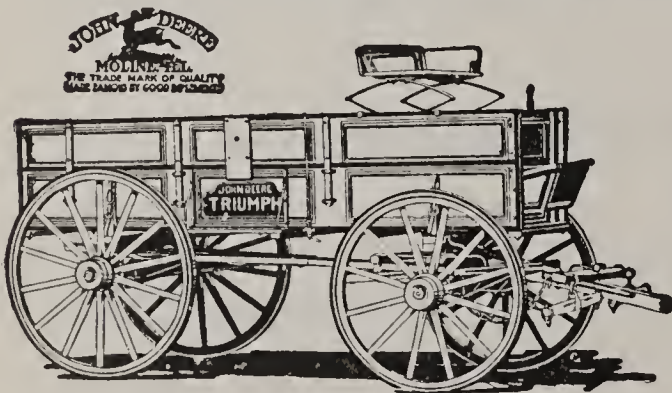
Nearly every tobacco farm in the Conn. Valley is equipped with one or more of these implements.

Price \$110.00

Net Cash Price \$104.50



John Deere Triumph Wagon



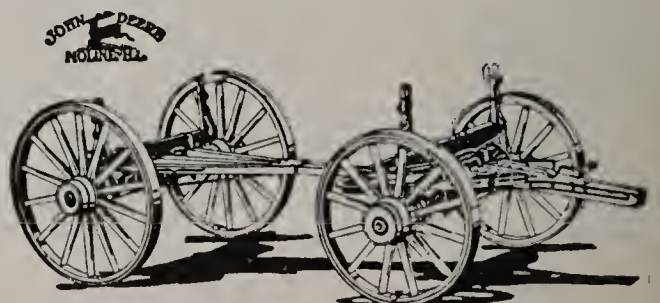
An attractive light-running wagon of moderate price having many of the features to be found on the more expensive John Deere wagons, among them the sand-and dust-proof skeins and malleable fifth-wheel bolster plate with corrugated coupling. Clipped gears; square wood front hounds of straight-grained oak; wheels are built strong of high grade material; hubs are oak or No. 1 black birch; oak or hickory spokes; box is firmly braced and strengthened with cross cleats and straps.

Prices on application.

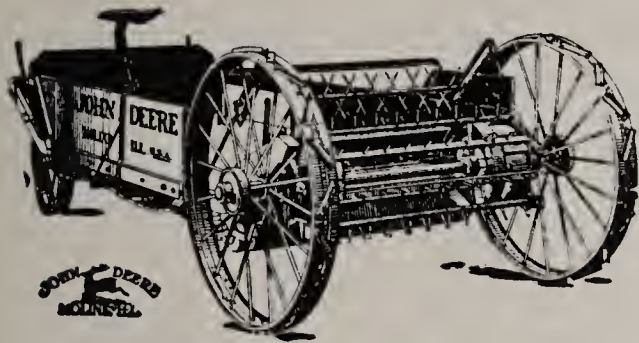
John Deere Farm Truck

In price, strength, draft and finish, John Deere farm trucks give exceptional satisfaction. They stand hard usage year after year because they are built right and in a factory that has an established reputation for making only the best.

Prices on application.



The Old Reliable John Deere Manure Spreader



In 1911 came the greatest change ever made in spreader design — the invention of the John Deere Spreader — the spreader with the beater on the axle; a machine that combined a low easy loading box with high drive wheels. This still is the preferred spreader on thousands of farms.

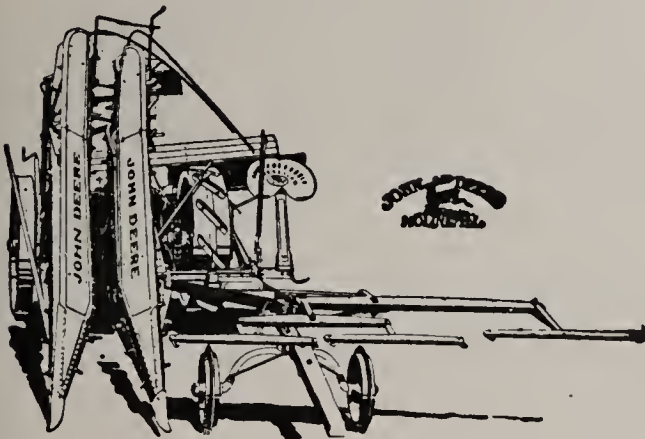
Size	Capacity		Price	Net Cash Price
A	30 Bushel	2 H. H.	\$175.00	\$166.25
B	40 "	2 H. H.	178.00	169.10
C	50 "	3 H. H.	188.00	178.60

Moline No. 200 Manure Spreader

A new sturdy, but light weight spreader simple in design.

50 Bushel size with 2 Horse Hitch.

Price \$150.00
Net Cash Price \$142.50



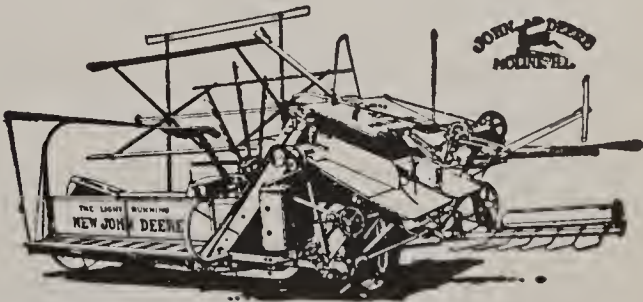
John Deere Corn Binder

This binder is unusually easy to operate. By merely pressing foot-trip lever, power carrier delivers bundles free of horses' path and practically at right angles to standing corn. All steel quick turn Tongue Truck takes neck weight from horses and also makes it easy turning. Stiff pole and tractor hitches can be furnished.

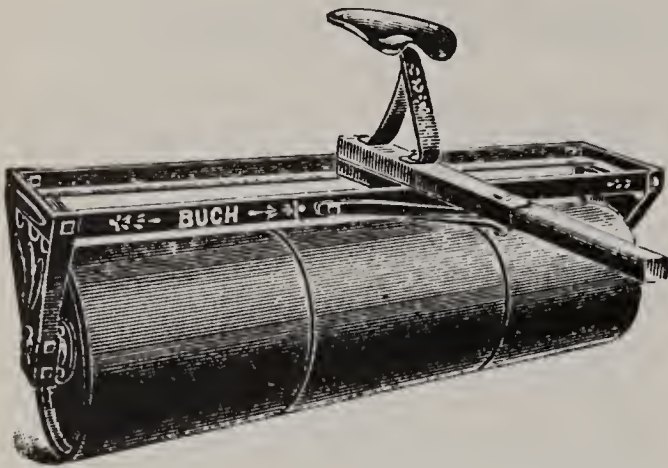
3 H. H. w/pole. Price \$225.00. Net Cash Price\$213.75
3 H. H. w/pole or tractor hitch and power bundle carrier.
Price \$240.00. Net Case Price 228.00
For tongue truck in place of pole add \$20.00.

John Deere Grain Binder

Main frame is extra strong. Bars are widely overlapped and hot-riveted together. Into forged-in-frame bearing supports are fitted self-aligning bearings which cannot get out of line.



Price on application.



STEEL LAND ROLLER

The drums are heavy steel sheets not easily dented. The ends are closed to keep out dirt and trash. The frames are heavy angle steel securely bolted.

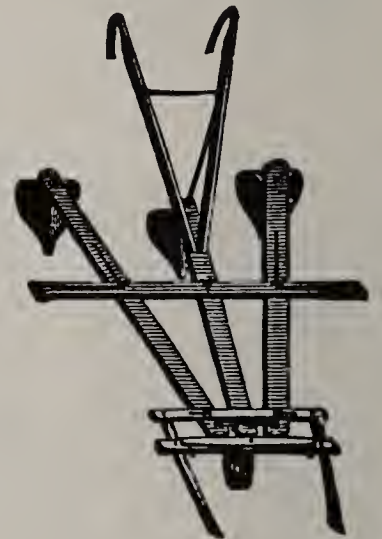
Price \$50.00. Net Cash Price \$47.50.

GOSLEE IMPROVED FIELD MARKER

(Spread 2 to 4 feet)

This machine is designed to mark out rows any width for any crops grown in rows. Teeth are adjustable to any size and depth drill.

Price \$18.00. Net Cash Price \$17.00.



THE JUMBO CONCRETE MIXER

Capacity from 27 to 45 cubic yards of well mixed concrete a day. Have you ever figured out just how much time and money a good concrete mixer would save you?

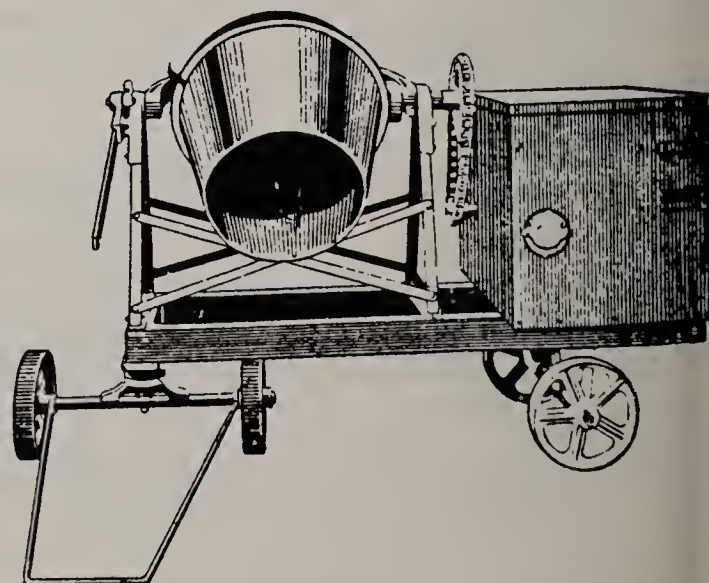
A Jumbo, for example, with a squad of four men will do the work of 8 to 10 at hand mixing, which means a saving of at least \$15 a day — and a better mix can be obtained. Can be operated by hand or engine.

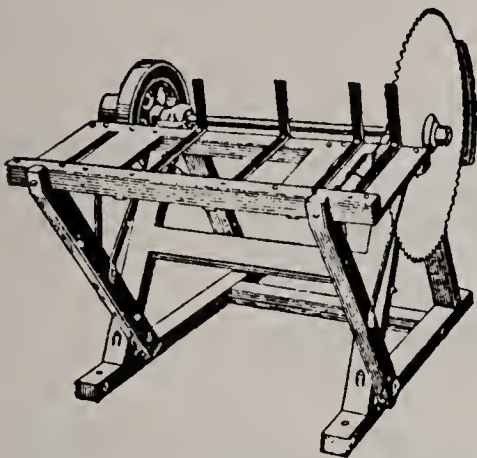
Price \$28.00. Net Cash Price \$26.60.

THE JUMBO CONCRETE MIXER Mounted on Truck With Jumbo 13¼ H. P. Engine

Several advanced and practical features of internal combustion engine design are embodied in the Jumbo construction. For example, the magneto is attached to the cylinder head directly over the intake valve, which insures positive ignition, and longer life to the igniter insulation, and complete utilization of the fuel.

Price \$110.00. Net Cash Price \$104.50.





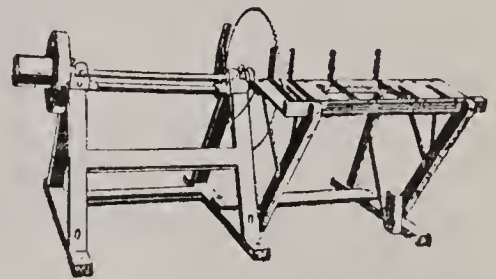
Jumbo Saw Frames

No. 700 With Tilting Table. Built especially for sawing cord wood. Mandrel of finest cold rolled steel $1\frac{1}{16}$ " dia., 49" long — fitted for saw with $1\frac{3}{8}$ " hole. Flywheel is accurately machined and carefully balanced, $15\frac{1}{2}$ " dia., weight 65 lbs. Standard pulley size 6 x 6".

Price \$25.00. Net Cash Price \$23.75.

No. 701 With Pole Extension — One of the best frames obtainable for sawing long poles and heaviest cord wood.

Price \$28.00. Net Cash Price \$26.60.



Curtis Guarantee Cord-Wood Saws

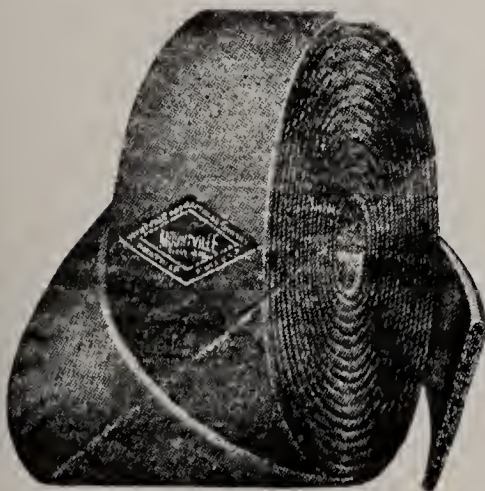
Always run the saw at proper speed, too high or too low is equally bad.



Dia.	No. Teeth	Speed	Net Price
20"	52	1800	\$3.50
22"	56	1636	4.00
24"	60	1500	4.50
26"	64	1384	5.00
28"	70	1285	5.75
30"	76	1200	6.50

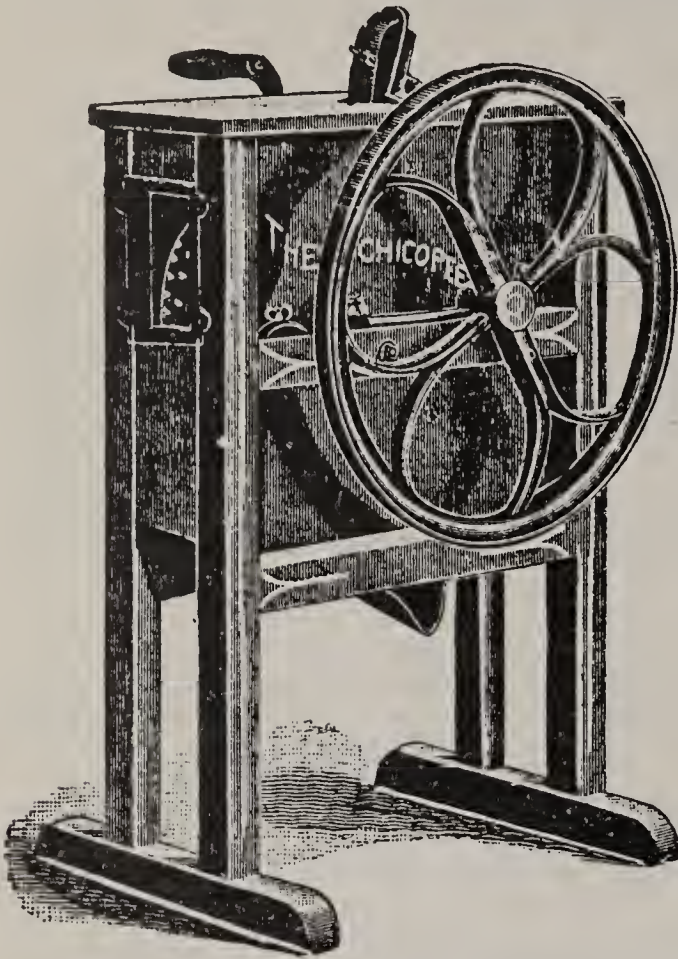
Mountville Red Rubber Belting

For Industrial and Agricultural Machinery



Good belting plays an important part in the successful operation of any kind of power machinery. The improvement in automobile tires illustrates the progress in the manufacture of rubber goods. Mountville Red Rubber Belting is made of 32 ounce duck and a high grade rubber compound which prevents its being affected by moisture. Stretching and shrinking are reduced to a minimum, and it remains flexible winter and summer. No breaking-in is necessary and its modern friction surface construction enables it to pull a full load without excessive tension. Judged by what it costs, the service it will render, and its durability, it pays to use Mountville Red Rubber Belting.

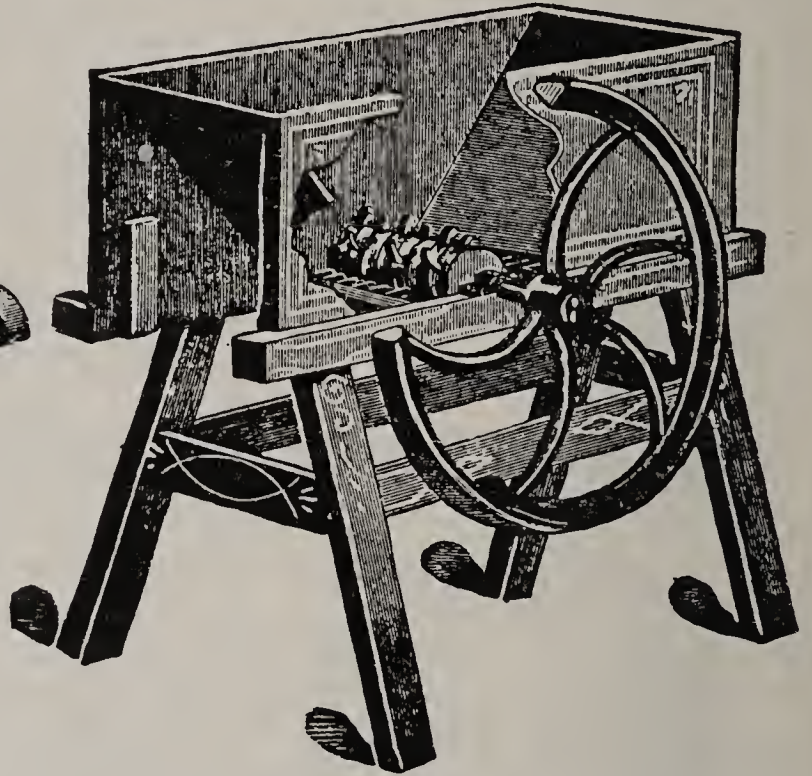
Price on application.



Corn Shellers

- Chicopee — One hole hand. (as shown)
 Price \$10.00. Net Cash Price \$9.50.
 Chicopee — Two hole power.
 Price \$22.50. Net Cash Price \$21.37.
 Lion — One hole hand.
 Price \$11.00. Net Cash Price \$10.45.

Champion Vegetable Cutter



The Red Chief Corn Sheller



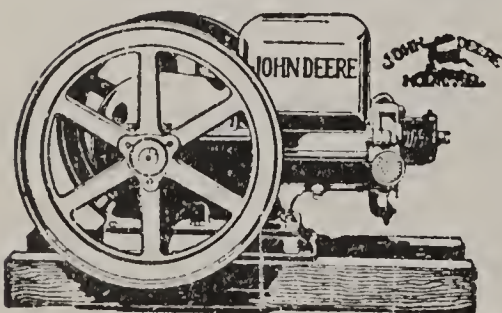
A substantial but low priced corn sheller, made of iron, painted red. Can be attached to a barrel or box. Adjustable for large and small ears. Price, \$2.75.

This is one of the best machines in the market for cutting all kinds of vegetables. It is made with a wrought shaft with sections of knives fastened to it, and arranged so that a rotation of knives is continually passing a bed knife with cross knives passing between the section of knives; cutting always near the center shaft, making it cut easy and fine enough for cattle or sheep; also making a very regular cut.

This machine will cut sixty bushels an hour

Price \$12.00.
 Net Cash Price \$11.40.

John Deere Type E Farm Engines

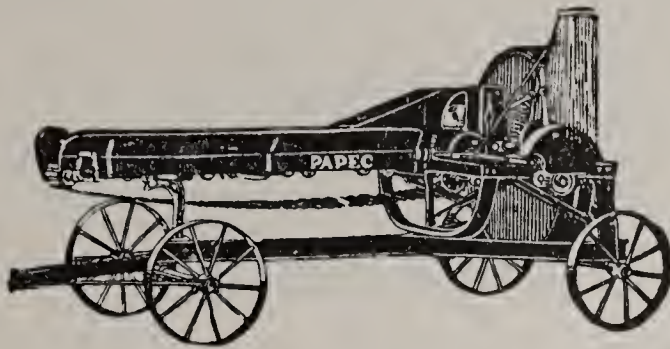


Contain the greatest improvements in engine building made in years. All important working parts fully enclosed in dust-proof case are oiled automatically. Magneto equipped.

1½-3 & 6 Horse Power

Price on application.

Paplec Cutters

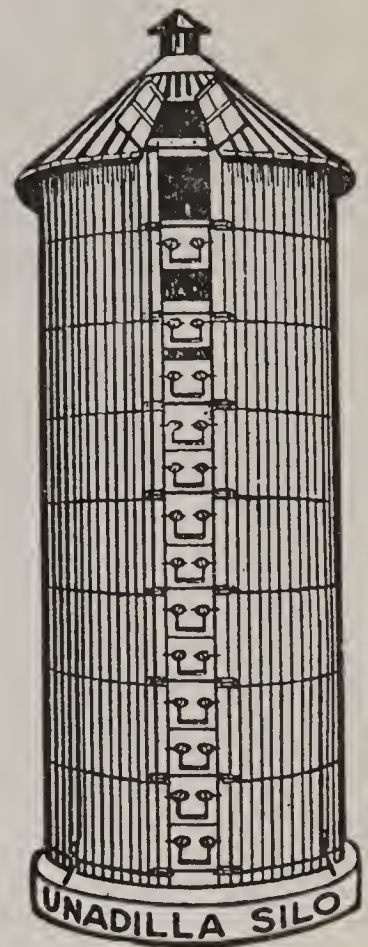


Pay Their Own Way

Biggest Capacity

A silo filler cannot cut more corn than the feed rolls can move through its throat. In comparing two cutters, first determine the width *and the height* of the throat openings. Then compare prices. You will find that Paplec gives more square inches of useful throat capacity for your money than any other cutter. That is one reason why Paplec is guaranteed to *do more*.

Prices on application.



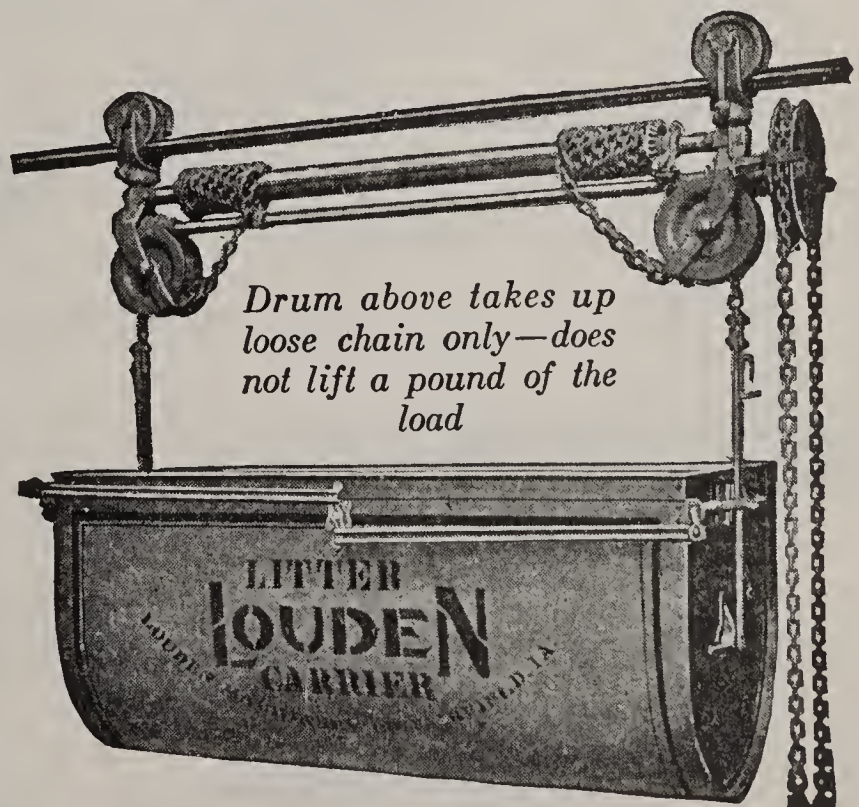
The
**UNADILLA
SILO**
is built for
a Lifetime

The Louden Litter Carrier

We believe this to be by far the greatest litter carrier ever built. Made to handle heavy loads of wet manure easily, safely and for many years.

Tub is water tight, full 12-bushel capacity. The worm gear hoist on this Louden Carrier is built on the same principle as the highest grade industrial hoists. It is far superior to the dangerous, troublesome brake and ratchet type.

Load hangs squarely under the track with minimum wear on trolleys. Roller bearing wheels. Sturdy steel track, good for a lifetime. Tub trips from either end. In every respect a quality carrier. Close comparison with any other merely emphasizes its outstanding superiority. Prices and complete description gladly furnished. Ask for them.



*Drum above takes up
loose chain only—does
not lift a pound of the
load*

LOUDEN DETACHABLE WATER BOWL

Mastermade.....	\$4 .10
Economy	2.60

GRINDSTONES

SAMSON MOUNTED GRINDSTONES

This frame is made of seasoned hard wood. The legs are securely gained into side pieces and the ends are in one piece. Two bolts at each end pass through the entire frame from side to side. The ends of the side bars are neatly turned to serve as handles. No. 1 with large stone. **\$10.50 Net.**

No. 2 with medium stone **\$10.00 Net.**



NORKA BALL BEARING GRINDSTONE

A very strong and easy running grindstone, practically indestructible. The frame is constructed of heavy tubular steel, thoroughly braced. The shaft is of cold rolled steel and turns in a splendid ball bearing device. The Pitman connection is also ball bearing.

Price **\$10.00 Net.**

SCYTHE STONES

Aloxite

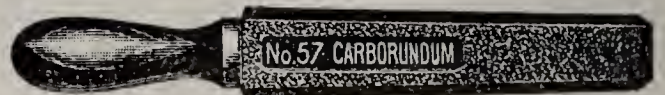


Made in four sizes.

No. 188 — 10" long Price **\$0.30**
 No. 190 — 10" long " **.30**
 No. 191 — 12" long " **.35**
 No. 192 — 10" long (heavy) **.35**

CARBORUNDUM NO. 57 FILE

Here is one of the most useful tools that you can own. Will sharpen about every farm or garden tool. Price **\$1.00.**



Pike Scythestones

Indian Pond

The original Pike Red End. Sold the world over for nearly a century. Gives a quick, medium coarse edge.

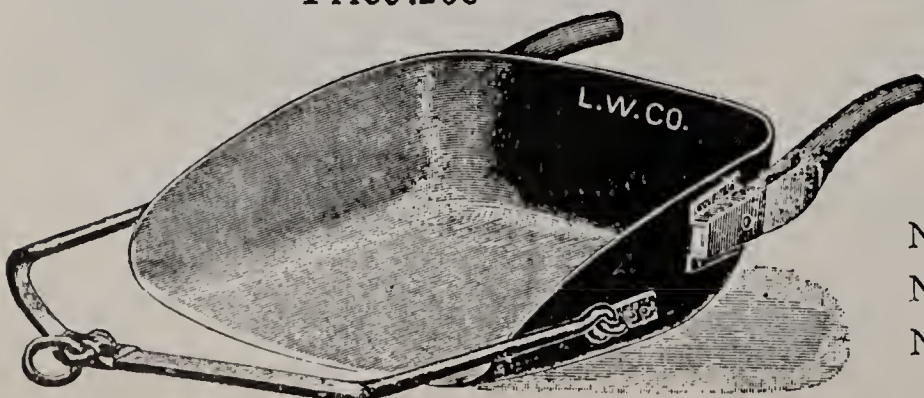
Price **25c**



Black Diamond

Very fine gritted but extremely sharp and fast cutting, giving a fine lasting edge. Flat octagon in shape.

Price **.20c**

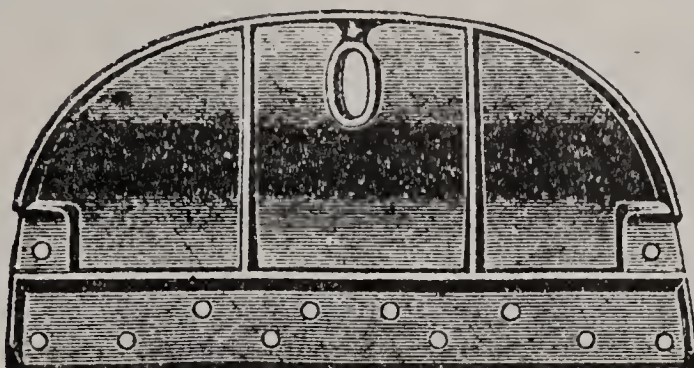


STEEL DRAG SCRAPERS

No. 3 — 3 cubic ft. **\$8.50 Net.**
 No. 2 — 5 cubic ft. **9.00 Net.**
 No. 1 — 7 cubic ft. **9.50 Net.**

STONE BOAT HEADS

The illustration below shows a simple device whereby a stone-boat can be made in a few minutes by using a straight plank with the addition of the Iron Head. Anyone in need of a stone-boat will readily see how easy it is done, and as one head will last for years, it is not only cheap, but durable.



Cast Iron 32 inches—Price with Bolts \$7.00

Steel 34 inches—Price with Bolts \$6.00

COMPLETE STONE BOAT

The Handiest Implement on the Farm



The front of high grade quality carbon steel, 34 inches wide, firmly bolted and braced to the raves and bottom boards, which are hardwood.

Price \$16.00 Net



Axe Mattocks, - - \$1 00
Pick Mattocks, - - 1.00
Mattock, or bog hoe, 1.00



Railroad Picks... 1.00



GIBBS
POST
HOLE
DIGGER

Price \$2.75

LOCKING
DEVICE

Fairbanks Portable
Platform Scales

Most practical
and convenient
scale for many
purposes.



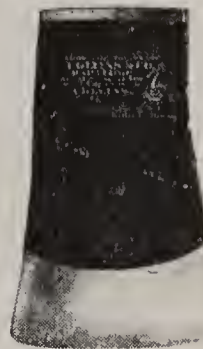
Price on application.



BUSH or BILL
HOOKS
Heavy, (handed)
\$2.00

AXES

Clipper \$1.75
Spiller 2.00
Collins 2.25
Rogers 2.75

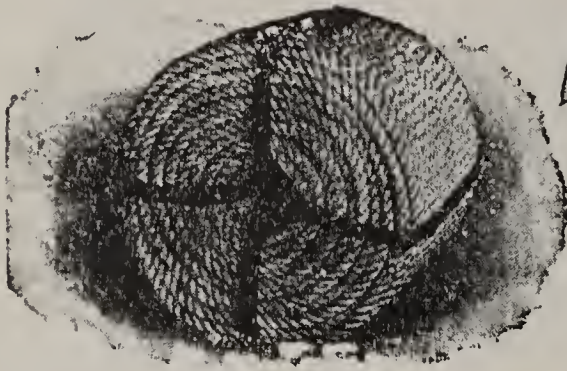


GARDEN MATTOCK HOES.

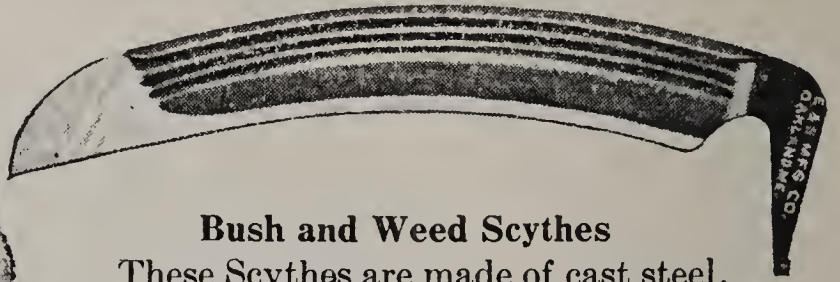
One-piece High Grade Forged Steel Tempered Blades, Half Polished; Balance Painted Red; Oval Eye; Hardwood Handle, 4½ ft. Long; Width of Blade, 3 in.; Width of Top Cutter, 1½ in.; Diameter of Eye, 1½ in.; Length of Head over all, 14 in.

Price \$1.25

ROPE



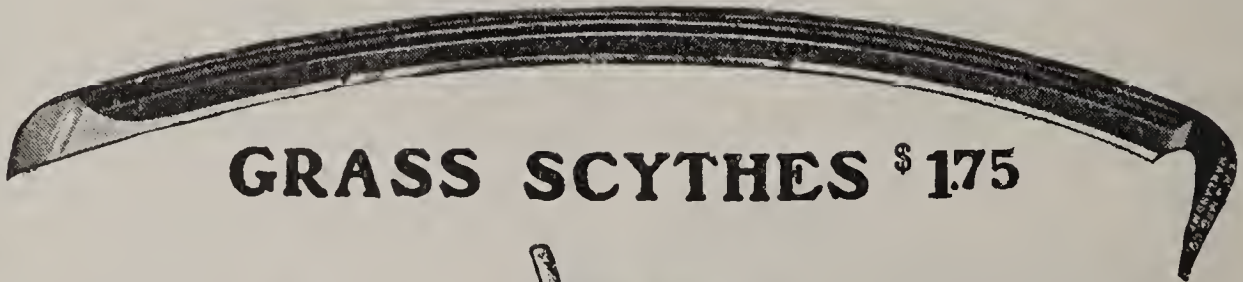
We carry in stock pure Manila Rope, sizes from $\frac{3}{8}$ inch to $\frac{3}{4}$ inch:



Bush and Weed Scythes

These Scythes are made of cast steel, with blades wide and heavy for rough work. The "Bush" varies in length from 12 to 22 ins. The "Weed" varies in length from 22 to 30 ins.

Bush . . . \$1.75 Weed . . . \$1.75

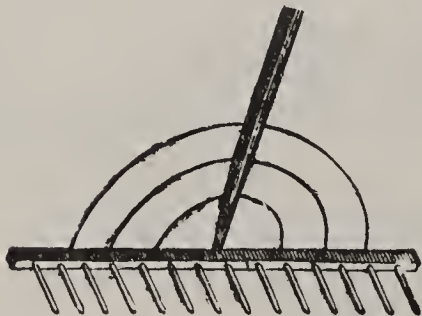


GRASS SCYTHES \$ 1.75



SCYTHER SNATHS—Ash

Grass, \$1.75 Bush, \$ 2.00



Wood Hand Rakes

The heads and teeth are of hickory, the handles of ash.

3 Bow Lawn	Rakes, 24 Teeth	\$1.00
3 Bow Hay	Rakes, 14 Teeth	.85
2 Bow Hay	Rakes, 12 Teeth	75

Lightning Hay Knife



Blades—Polished and enameled.

Length—36 inches.

\$1.75

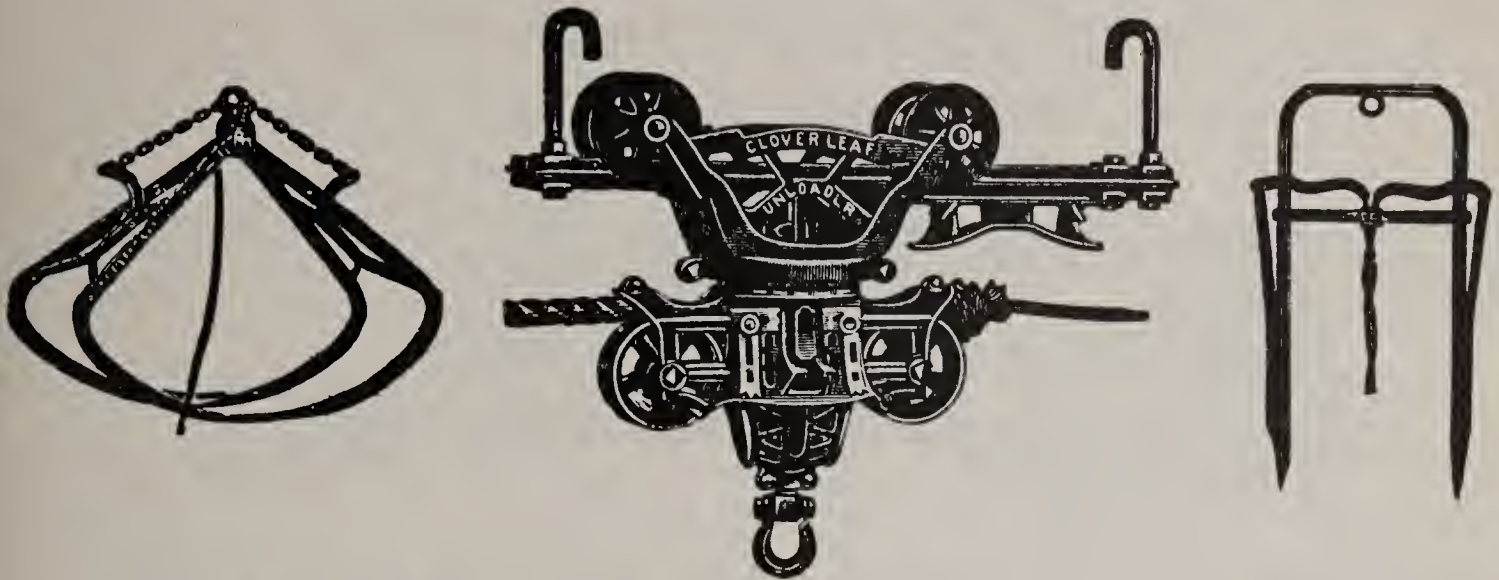
Three-Tine Hay Forks



The best all around forks for feeding, loading and pitching to stack or mow.

4	ft.	Bent handle, 13 in.	Tine, plain ferrule	.	.	.	.	.	\$1.25
4½	ft.	"	" 13 "	"	"	"	"	.	1.35
5	ft.	"	" 14 "	"	"	"	"	.	1.50
5½	ft.	"	" 14 "	"	strap	"	"	.	1.65
6	ft.	"	" 14 "	"	strap ferrule	"	"	.	1.70

Myers Hay Unloader

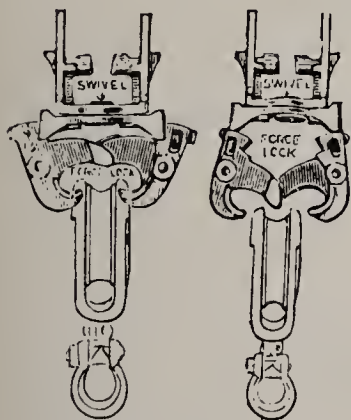


The advantage of a hay carrier as a means of storing away Hay or Grain are so well known that it is not necessary to go into details. They save the time and expense of from one to three men at harvest time—a large item.

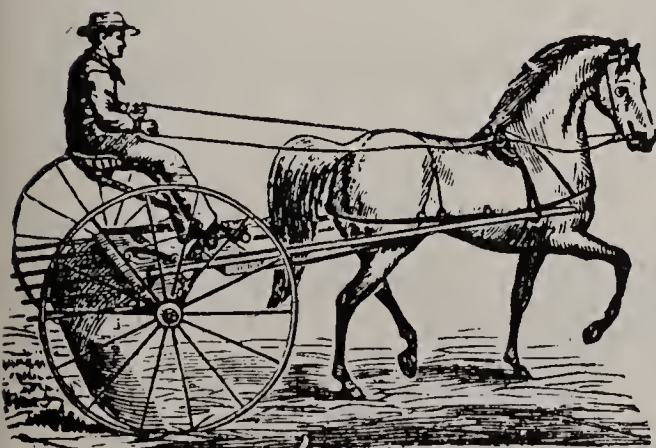
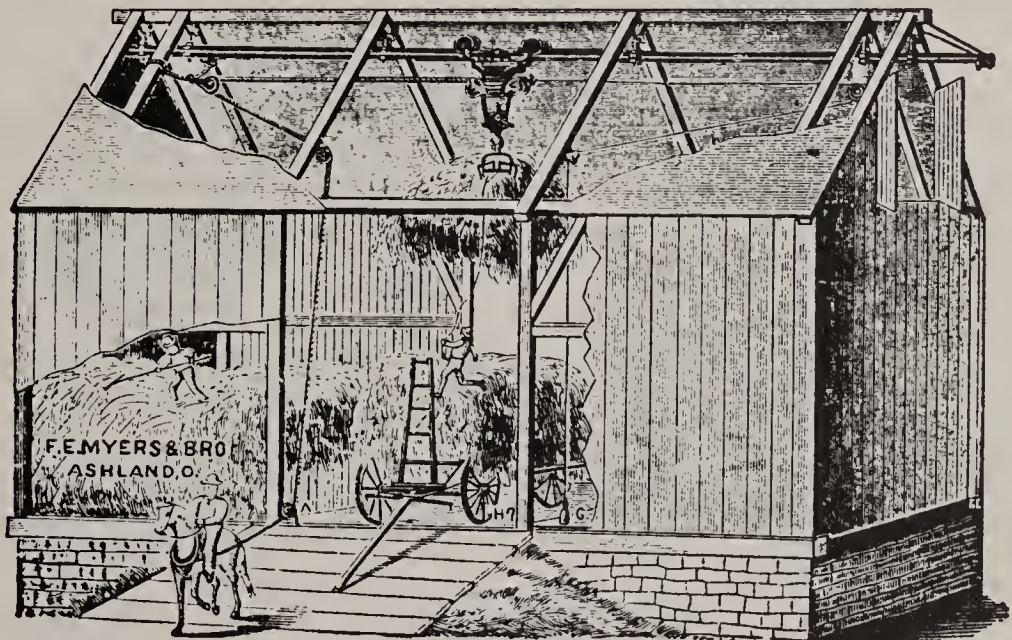
PRICES

Clover Leaf Hay Unloader No. 118	\$10.25
Double Steel Track	.23
Hanging Hooks	.18
Rafter Brackets	.05
3/4" Floor Hooks	.18
Wood, Knot Passing, Pulley Fig. 1120.	.70
Double Harpoon Fork Fig. 1314	3.00
Four Tine Grapple Fork Fig. 1351	10.00
Six " " " " 1438	12.00

Discount on complete outfit 5% for cash.



Locking Device



Price \$44.00
Net Cash Price \$41.80

Yankee Hay Rake

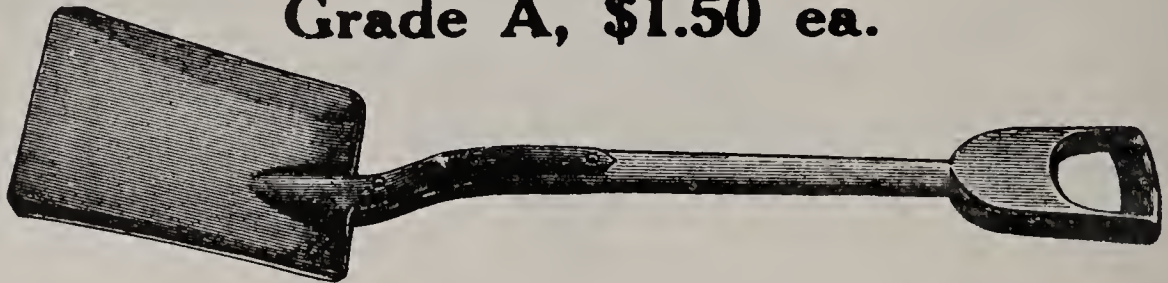
24 TEETH

This is the old reliable Yankee, which needs no introduction. It is a very easy rake to operate, each tooth being independent; it will pass over large stones without breaking the teeth. It is so easy to operate that a child can handle it.

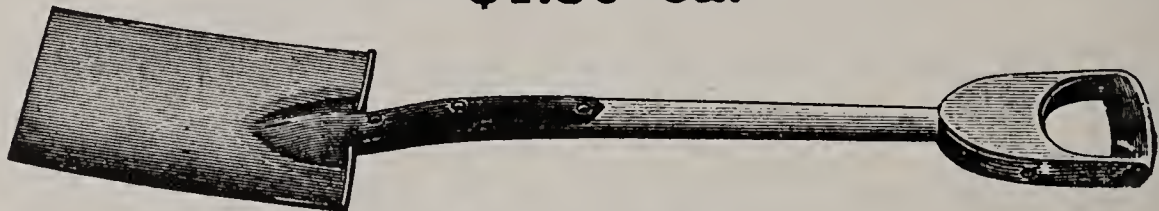


SQUARE AND ROUND POINT WOOD D. OR LONG HANDLED PLAIN BACK FULL POLISHED SHOVELS

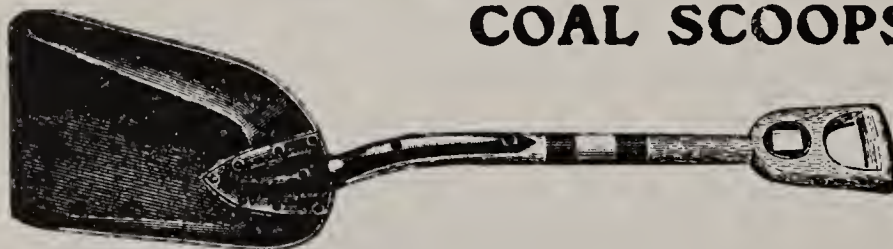
No. 2 and No. 3,
Grade A, \$1.50 ea.



WOOD D. OR LONG HANDLED PLAIN BACK FULL POLISHED No. 2 SPADES \$1.50 ea.



COAL SCOOPS



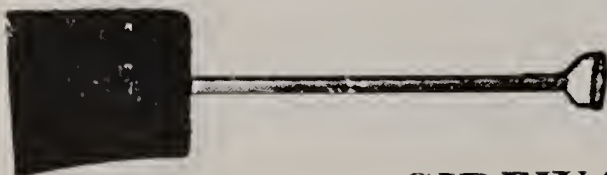
No. 3 Riveted back .	\$1.75
No. 4 " " .	1.85
No. 5 " " .	1.95

HOUSEHOLD FURNACE SCOOPS

Long Handle	1.00
Mal. D. Handle	1.00
Oliver Ames	2.00



SNOW SHOVELS



No. 25 Trojan spring steel (black) .	.95
No. 29 Eclipse (Galv.)	1.10

SIDEWALK CLEANERS

Wirts Snow Pushers	1.75
No. 81 Snow Scoop 30 in. . . .	8.00
Sidewalk Cleaners, socket pattern . .	1.00



CHAMPION

Potato Scoop.

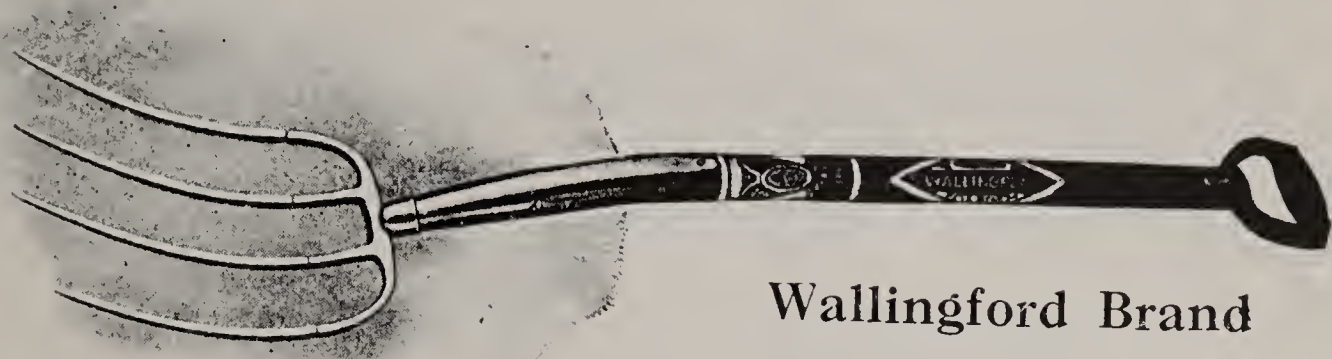


\$3.00



Dandelion
Weeders 35c each

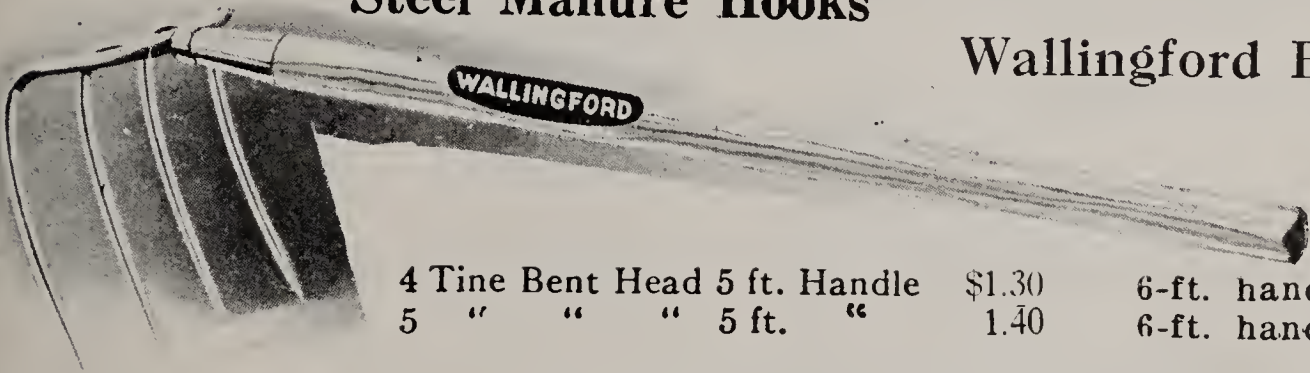
Manure Forks



Wallingford Brand

	Price	Price	Price
	4 Tine	5 Tine	6 Tine
Long Handle Common Ferrule	\$1.45	\$1.60	\$1.85
Long " Strap "	1.55	1.75	1.95
Mal. D " Common "	1.45	1.60	1.85
Mal. D " Strap "	1.55	1.75	1.95
Wood D " Common "	1.70	1.85	2.10
Wood D " Strap "	1.80	1.95	2.20
Large 4 Tine Fork for handling light manure. Wood D \$2.95. Mal. D \$2.75			

Steel Manure Hooks



Wallingford Brand

4 Tine Bent Head 5 ft. Handle	\$1.30	6-ft. handle	\$1.45
5 " " " 5 ft. "	1.40	6-ft. handle	1.55

Steel Potato Hooks

4 Tine Bent Head 4½ ft. Handle	\$1.00
5 " " " " " "	1.25
6 " " " " " "	1.35

The CYCLONE
Planting and Picking
BAG NO. 1



Planting and Picking

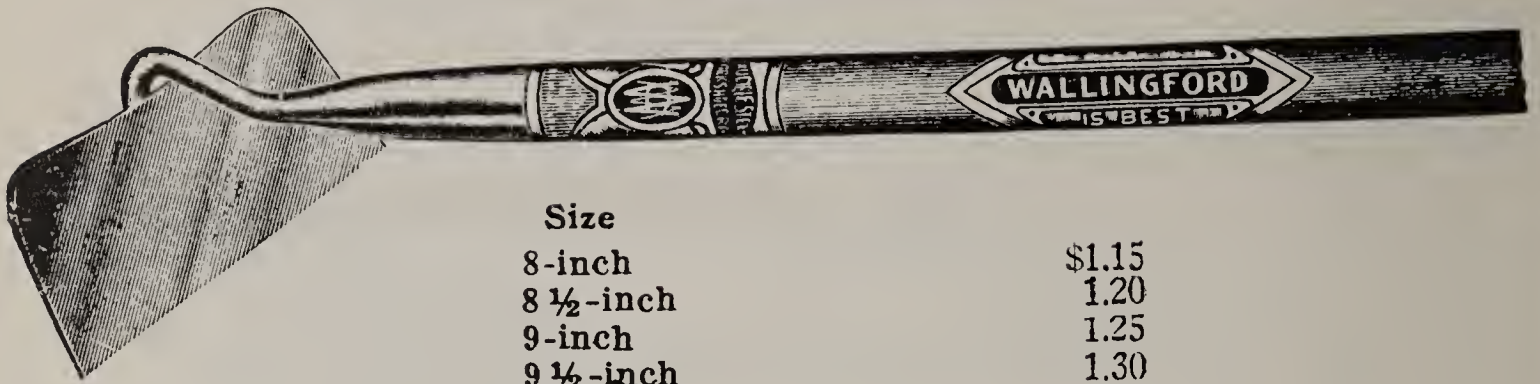
Bag No. 2

A desirable bag adapted for picking apples, etc. A steel frame keeps mouth of bag always open. Is specially designed for ease and convenience in emptying fruit without bruising. The bottom of bag No. 1, left open, is folded back and held secure by rope and hook. To empty, the rope is released which allows contents to flow gently into crate or barrel. Both hands are free for work.

Price Bag No. 1,	\$1.00 ea.	\$10.00 dozen.
" " No. 2,	.75 ea.	7.50 dozen.

TOBACCO HOES

These Hoes are specially adapted to Connecticut Valley Trade.



Size	
8-inch	\$1.15
8 ½-inch	1.20
9-inch	1.25
9 ½-inch	1.30
10-inch	1.35
11-inch	1.40

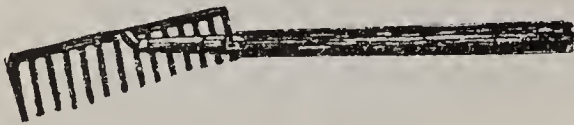
Less 10 % discount in lots of 1 dozen or more.

GARDEN OR FIELD HOES

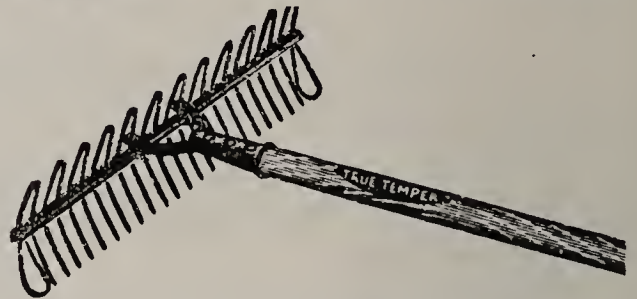
7-inch	\$1.05	8-inch	\$1.15
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STEEL GARDEN RAKES

WIRE LAWN RAKES



12 Teeth, 5 ½ ft. Handle	\$1.00
14 " " "	1.05
16 " " "	1.15
18 " " "	1.25



24 Teeth—Bolted Pattern	\$1.10
Brume	1.00

SPADING FORKS



4 Tine, Long	Handle, Strap Ferrule	.	\$1.65
4 " Mal. D	" " "	.	1.65
5 " Long	" " "	.	2.20
5 " Mal. D	" " "	.	2.20

Norcross Improved Hand Garden Cultivator



3 Tooth Short Handle (8 in.)	\$0.50
3 " Long " (4 ft.)	.90
5 " " " (4 ½ ft.)	1.15

TURF EDGERS

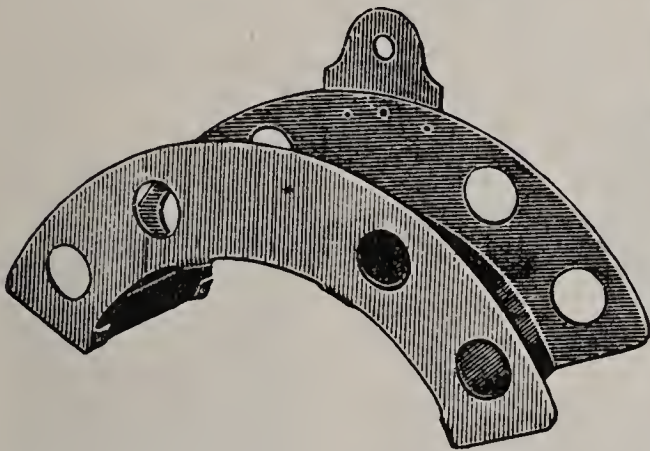


Long Handle, Shank Pattern	\$1.00
Iron D " " "	1.00

Corrugated Rubber Garden Hose

The "Hose" listed is that of high grade manufacture which we furnish coupled in 50-ft. lengths.

Special $\frac{5}{8}$ inch.....	\$3.00
Red Vigilant $\frac{5}{8}$ inch	5.00
Red Vigilant $\frac{3}{4}$ inch	5.50
Red Holley $\frac{3}{4}$ inch	6.00
Gray Rock Rib $\frac{3}{4}$ inch	7.00
Quaker City $\frac{3}{4}$ inch	8.00

Goldsmith Hose-Rack

The Goldsmith Hose-Rack is a hose-preserver, since the hose hangs on the rack in large, natural coils, thus preventing kinking and twisting. 90c each.

**PRUNING SHEARS**

65c, 75c \$1.00, \$1.50, \$2.00 and \$3.00



Hedge Shears—6 inch, 75c, \$1.50; 8 inch \$1.00, \$2.00; 9 inch \$1.25, \$2.25

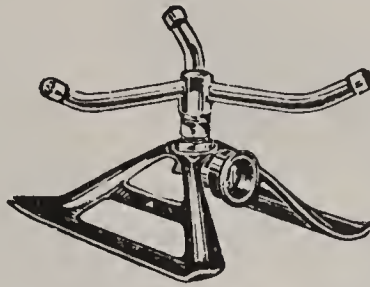
HOSE SUPPLIES

Siamese Hose Attachment.—Permits use of two leads of hose at one time. $\frac{3}{4}$ inch 85c each.

Hose Clamps or Bands.— $\frac{1}{2}$ and $\frac{3}{4}$ inch sizes, 5c each.

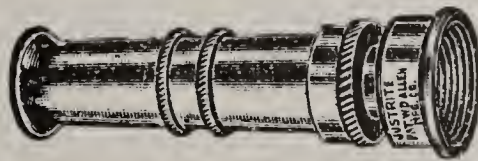
Regular Hose Couplings.—Easily applied. $\frac{1}{2}$ inch, $\frac{5}{8}$ inch, $\frac{3}{4}$ inch, 15c each; \$1.50 per dozen.

Perfect Clincher Hose Coupler.—Self-fastening Coupling that does not require extra bands. $\frac{1}{2}$ in., $\frac{5}{8}$ in., $\frac{3}{4}$ in., 10c each.

"Dollar" Lawn Sprinkler

The Dollar Lawn Sprinkler is especially designed to sell at One Dollar. This efficient lawn sprinkler is made with a view to popularize lawn sprinklers. In operation it gives a widely distributed uniform spray.

The Dollar Sprinkler stands $4\frac{3}{8}$ inches high, base $6\frac{1}{2}$ inches by $7\frac{5}{8}$ inches. Arms are $4\frac{1}{2}$ inches long. The head and arms are of brass, base is finished in Duco. **Price: \$1.00.**

Boston Spray Nozzle

Will throw a spray, a large or a small solid stream. **Price, 50 cts.**

Rip Sprinklers

The master rain-maker. Only one moving part. Will not clog nor corrode. Non-friction graphite bearings (patented). Runs on low water pressure.



Spike type.
Price 85c

Double connection type.
Price. \$1.00



Grass Shears 60c, 90c

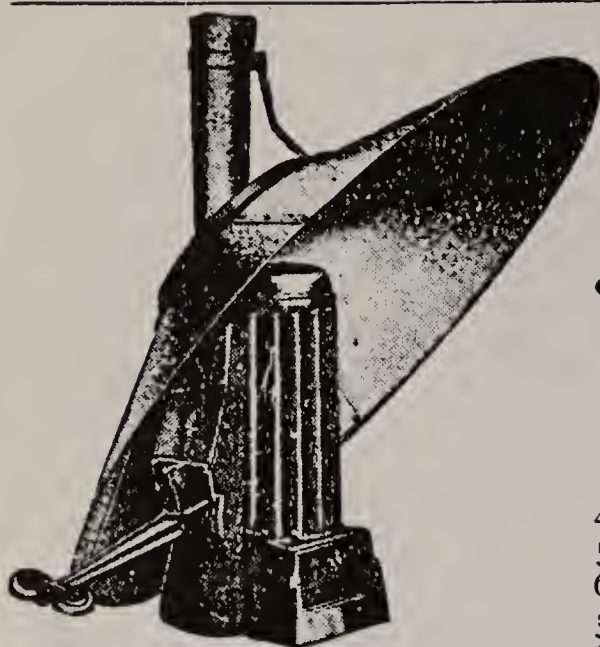
**Planet, Jr. Turf Edger**

Price, \$1.50

FLORAL SETS

3 in set,
\$1.50



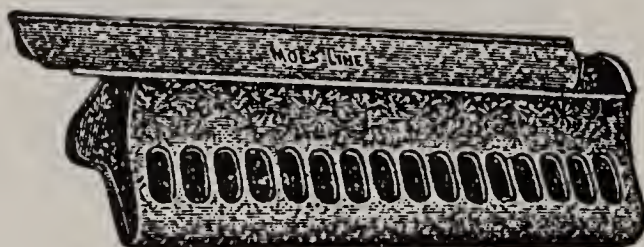


MAKOMB GIANT COAL BROODERS

Square base and ashpit of greater capacity.
New type coal door hinge, eliminating binding or poor fit.
New Regulator Screw for easier adjustment.
Larger shaker handle, offset for convenience.

	Chick Capacity	Price Each	Net Cash Price
47 in. Giant	350	\$15.95	\$15.15
56 in. Giant	600	19.95	18.95
65 in. Giant	800	25.75	24.50
56 in. Standard	500	16.95	16.10
65 in. Standard	700	18.95	18.00

Large Capacity Feeder



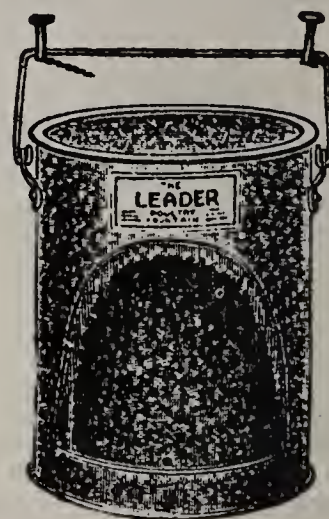
- No. 140—Chick Feeder, each.....\$1.00
No. 140W—Same as above but with wide rain cover.... 1.20
A fine feeder for growing stock, and a great time and labor saver. Has a total of 32 feeder holes. Sliding top, easy to fill and clean. Capacity, 10 quarts; length, 21 inches.
No. 141—The same style, but larger. Length, 35 inches. Has 54 feeder holes. Capacity, 17 quarts, each.....\$1.50
No. 141W—Same as above, but with wide rain cover.... 1.75

Felker's Handy Attachment



To be used with any make of Fruit Jar
A PERFECT FEEDER
For Sour Milk, Water, Hard Grain or Grit
The Container is made of aluminum, the only metal in which sour milk can be fed with safety. It is rust-proof and non-corroding. The HANDY is adjustable, simple to operate and durable. Every one has some kind of a quart fruit jar—the HANDY fits them all. Price 25 cts.

Wall Founts.



Leader Fountain

A new Sanitary Fountain, practical to use, easy to keep clean.

A saving of from 30 to 40 per cent over any fountain its size.

1 1/2 gal. 85c
3 gal \$1.50

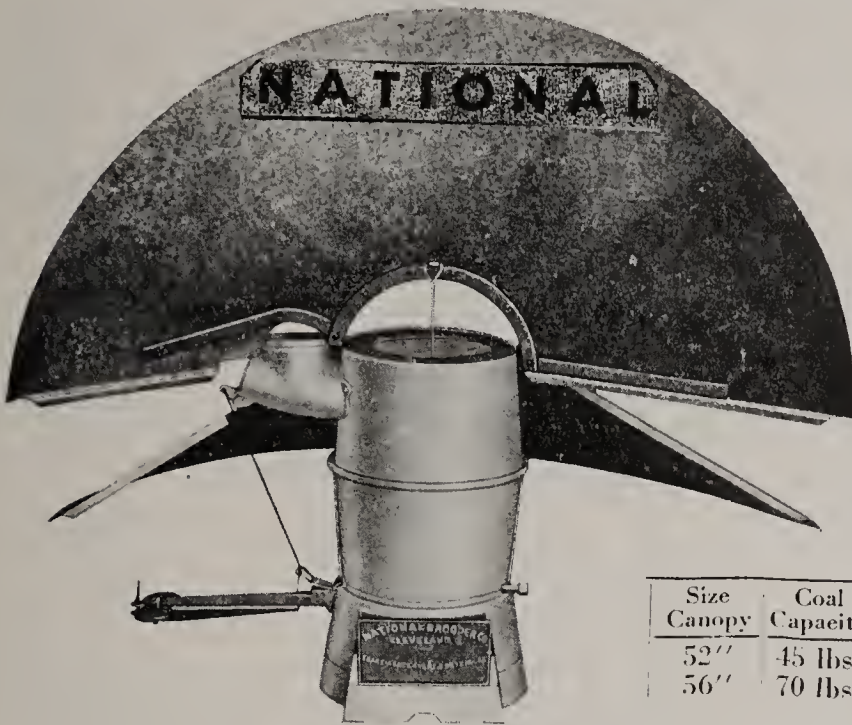


75c



Kwik-On Leg Bands — Made of aluminum. These bands are light in weight, dependable and will not break in using. They are easy to put on and they can't lose off. Kwik-On Bands are accurately made in fast colors, weather proof and will not fade. Made in three colors—Red, Blue and Greens. Five sizes. Order by number: No. 9, Leghorn size; No. 10, Plymouth Rocks and Rhode Island Reds size; No. 11, Large Plymouth Rocks and Reds.

Prices, 10c doz. 50c per hundred



The new improved National brooder
 Larger Coal Capacity.
 Wider grates.
 Straight heavy cast iron fire bowl (no coal clogging).
 Double Thermostat controlled direct and and check draft.
 Large 9" opening for filling.
 Patented exterior baffle arm—5" pipe.
 Extended base (prevents live coals dropping on floor when shaking).
 Ash pan furnished.

Size Canopy	Coal Capacity	Height	Dia. of Grate	Shipping Weight	Price Each	Net Cash Price
52"	45 lbs.	21½"	9½"	105 lbs.	\$15.30	\$14.54
56"	70 lbs.	24½"	11"	135 lbs.	\$18.00	\$17.10

1, 2, 3 & 5 GALLON CAPACITY FOUNTAINS

No. 75 5 gal. heavy 20 gauge galvanized iron fountain for chicks or grown fowls. Double tank, top fill, spring valve, deep rounded bottom pan. Brace handle across inside tank for carrying water. Perch proof top. Strong handles for removing outer tank. Tanks and pan heavily beaded, red trimmed. **\$2.10**

No. 73 3 gal. heavy 26 gauge galvanized iron fountain for chicks or grown fowls. Double tank, top fill, spring valve, deep rounded bottom pan. Brace handle across inside tank for carrying water. Perch proof top. Strong handles for removing outer tank. Tanks and pan heavily beaded, red trimmed. **\$1.50**

No. 71 galvanized gallon size fountain for chicks Made from heavy 28 gauge iron, perch proof top, deep narrow rounded bottom snap-on pan. Heavy bale for carrying. Red trimmed, bottom fill. **50c**



8 quart Chick Fount
(Top Fill)



G 3-22 \$1.20
Adjustable Roof Saddle

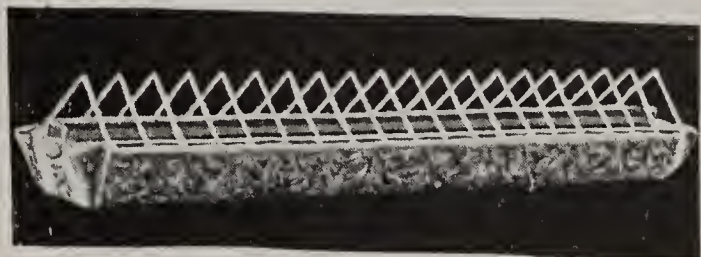


Galvanized Fountain
10c
\$1. doz.

Wafer Thermostats



3" Price 30c each
4" Price 40c each

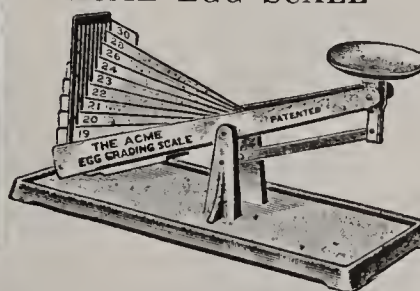


Model F2G Utility Chick Feeder

56" of feeding space equally as good for watering. The baby chick outgrows most feeders in a few weeks. This Utility Feeder can be used at least two weeks longer. Grid wires correctly spaced. Easily attached or removed for cleaning. 4" wide trough.

Model	Length	In Carton	Carton Weight	Sells For
F2G	28"	18	28 lbs.	\$0.35 ea.

ACME EGG SCALE



Price \$2.50 each

Chick Feeder and Waterer, similar to Utility Champion F2G except it has a single adjustable wire guard.

Mdl.	Lgth.	Sells For
F-0	12"	\$0.15 ea.
F-1	18"	0.20 ea.
F-2	24"	0.25 ea.

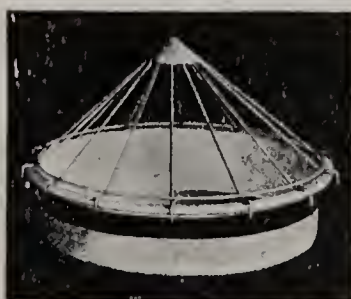
Long Trough Chick Feeder



Price 22 cents ea.



4 inch, \$1.25
5 inch, \$1.25



SIMPLICITY FEEDER OR WATERER

A long life galvanized pan 15" dia., 4¼" deep. Equipped with galvanized wire guard; easily detached.

Model W-5

For \$1.00 ea.



EGG BOXES

At Last! an Ideal Food for Dogs

Made by the World's Largest Feed Makers
Higher Quality—Lower Price

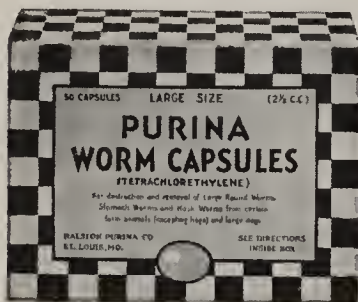
PURINA DOG CHOW belongs to the Checker-board family of quality feeds. That is your guarantee of dependability. Since 1893 Purina millers and Purina chemists have been making scientific feeds for animals. One small Purina Mill has grown to nine immense milling plants. When you feed Purina Dog Chow you start in at a point it has taken Purina over thirty years to reach. All of our experience, all of our science, all of our skill is behind every little cube of Dog Chow.

To buy such high grade ingredients, and mix so thoroughly would cost you a fortune. Purina's many plants and large output makes it possible to make and sell Dog Chow in big quantities and therefore at a low price

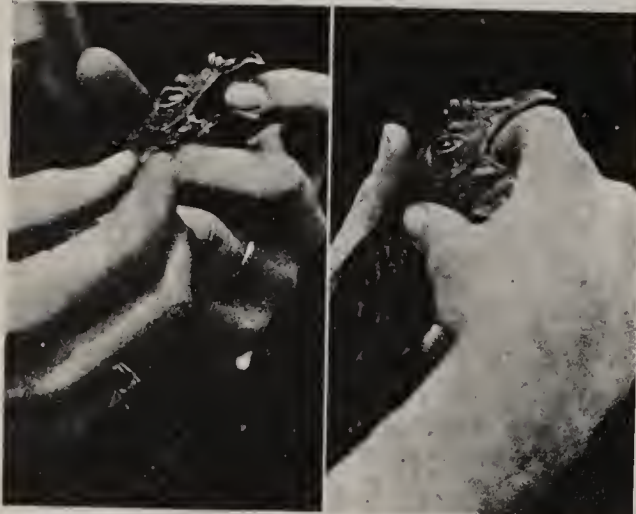


Purina Dog Soap

Gone will be your worries of trying to hold a slippery cake of soap with one hand and your dog with the other when you use Purina Dog Soap. Simply take enough of the soft soap from the jar to lather the dog. When the job is done, you'll be pleased to find that it leaves the coat unusually bright and clean. It also removes doggy odors. Is very economical to use,



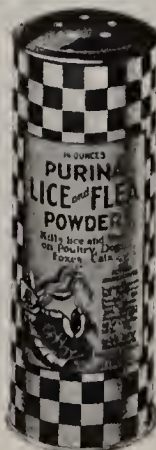
Purina Worm Capsules (for large roundworms).—Cartridges for killing and removing large roundworms, stomach worms and hookworms from poultry, dogs, foxes, sheep and rabbits.



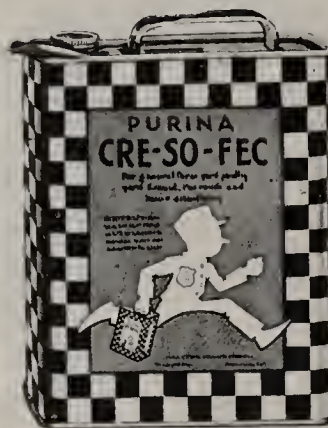
Purina Lice and Flea Powder

Not one or two but several different kinds of killers are scientifically combined in Purina Lice and Flea Powder to make it unusually effective. Here are some reasons why you will get the best results from Purina Lice and Flea Powder:

1. *Actually Kills* lice and fleas with which it comes in contact.
2. *Does Not Irritate the Hide* of foxes, dogs, cats, poultry or other livestock used upon.
3. *Also Kills* and drives away roaches, ants, silver fish and similar pests.



Products Used In the Purina Sanitation Program



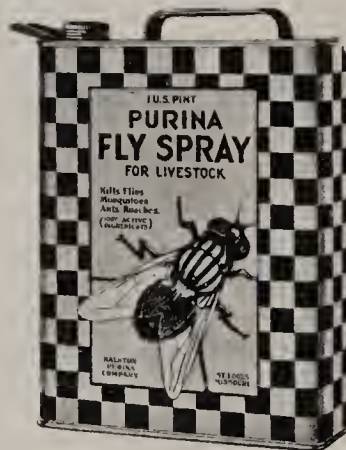
Purina Cre-so-fec

Purina Cre-so-fec is a saponified cresol disinfectant. It is used for disinfecting livestock and poultry quarters to kill many kinds of harmful germs and parasites. It is also unexcelled as a livestock dip. Cre-so-fec does not form a white emulsion when mixed with water. Instead, it forms a clear amber solution which has the following advantages:

Better Contact With Surfaces. The soapy character of Cre-so-fec gives it better contact with surfaces than is obtained when emulsified disinfectants (those which turn white) are used. This makes it a more effective germ killer.

Purina Fly Spray For Livestock

Cows can't be expected to give as much milk as they should when they have to spend their time fighting irritating stable and horn flies. And cows won't stand still for milking or let down their milk so easily when they are constantly switching



and kicking at flies. That is why thousands of farmers are turning to high-grade sprays such as Purina Fly Spray for Livestock. Simply spray it on the cows and it keeps them comfortable during milking and while grazing. Purina Fly Spray also is excellent for killing and repelling flies around foxes, dogs, and all kinds of livestock and livestock quarters.

Here are some of the reasons why Purina Fly Spray is unusually satisfactory for this work:

Purina Mosquito and Fly Spray for the Home

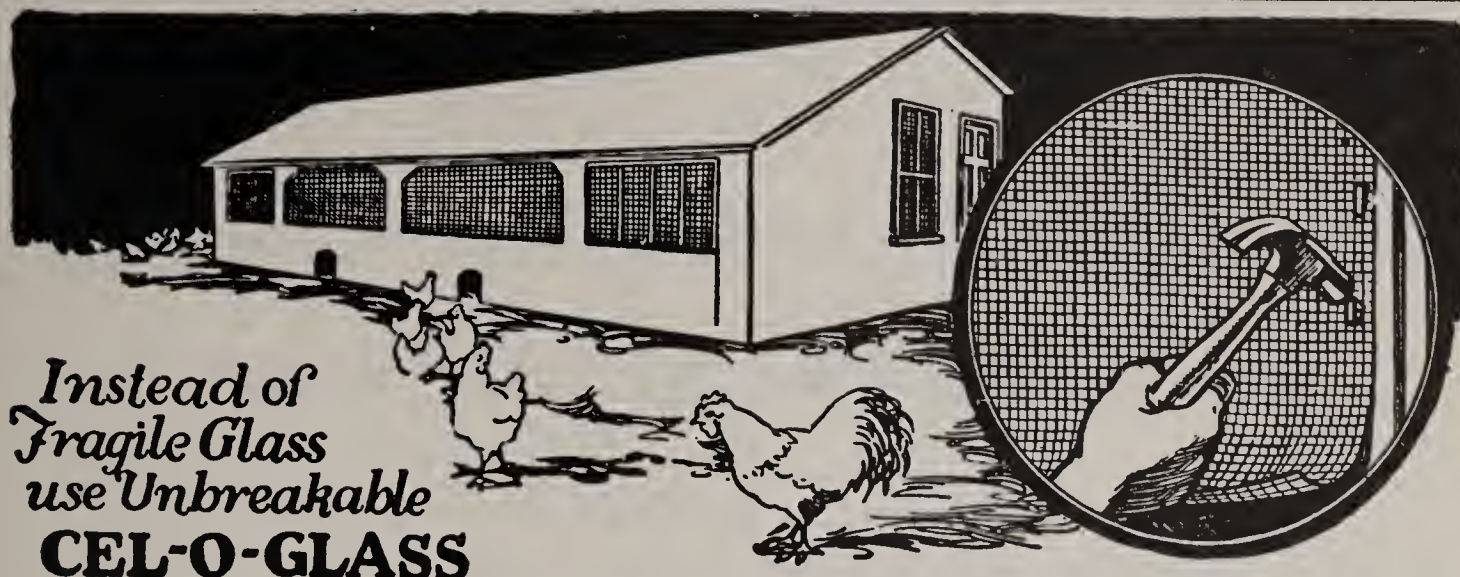
Purina Mosquito and Fly Spray is a powerful, highly refined spray for use in homes, creameries, restaurants, stores, camps and other places where a spray that will not stain is desired. It has the following advantages:

1. *A Positive Killer* of flies, mosquitoes, bed bugs, roaches, ants, fleas and moths. Because it is such an effective killer, it is very economical to use.
2. *Will Not Stain* the most delicate fabrics.
3. *Has a Pleasant Odor.* Will not leave objectionable flavors when used with care around foods.

Purina Chlorena

Purina Chlorena comes in two forms—tablet and granular. The granular form is packed in 5-pound bottles. It is for those extensive users, such as dairies, large hatcheries and large broiler plants which prefer the granular form of bactericide. The tablets come in bottles containing 100, 250, 500 tablets. There is also a 5-pound tablet jar. The smaller user will find these smaller containers of tablets more convenient.





*Instead of
Fragile Glass
use Unbreakable*
CEL-O-GLASS

Cel-O-Glass is an unbreakable highly translucent material made by coating tough wire mesh with a transparent substance that lets through practically as much light as clear glass. Is very light in weight, absolutely weatherproof and extremely easy and economical to use. It is flexible, comes in rolls 3 ft. wide and can be used almost any place where fragile glass is required. Price 40c linear ft.

DOPLEX

is especially recommended for

POULTRY HOUSES



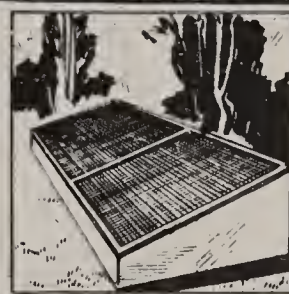
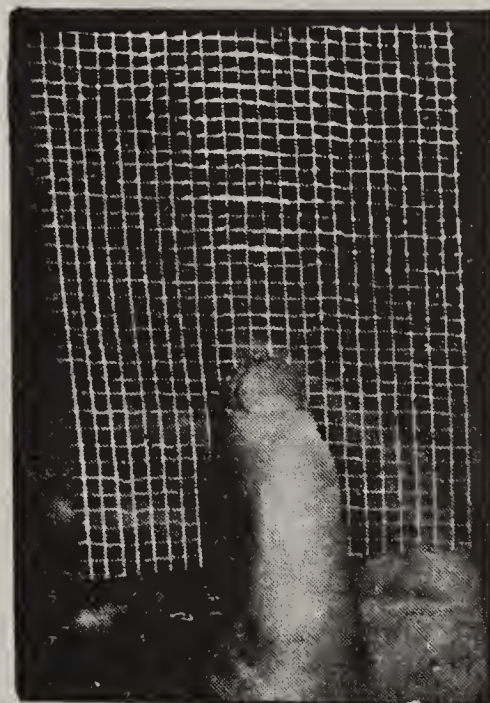
Repeated tests have shown that chicks raised under ultra-violet light grow more rapidly, are stronger and healthier than when these rays are eliminated as they are by ordinary glass. Doplex means more profit for the user.

Width 36 inches. Price 50 ft. Rolls, \$12.00
Smaller Quantities. 25c linear ft.

Glass Cloth.

Glass Cloth is a strong fabric treated by a patented process to make it transparent, weather-proof and water-proof. It costs much less than glass and for many purposes is superior. Anyone can put it up. It admits abundant light, which it diffuses and scatters to all parts of the enclosure. It comes in rolls 36 inches wide and any length.

Price 40c a linear yd.



B - K

FRAME SASH

B-K is especially adapted for the prevention and treatment of poultry diseases such as Roupe, Canker, Cholera, Bacillary and White Diarrhea. B-K is also a Powerful Disinfectant.

Prices 4oz. 30c, 10 oz. 50c, Qt. 90c, Gal. \$2.00, 5 Gal. \$8.50

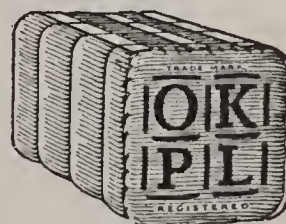
O. K. POULTRY LITTER

(Imported peat moss)

Per Bale \$3.50 Delivered.

5 Bale lots \$3.00 each Delivered.

25¢ per bale less at our warehouse.



CARBOLA

Carbola — The modern disinfecting whitewash can be used as a paint or powder spray it, brush it or dust it.

Prices 5 lb. 75¢, 10 lb. \$1.25, 25 lb. \$2.85, 50 lb. \$5.00.

You Can Raise 50 MONEY-MAKING CHICKS with 100 lbs. of Startena!

WHATEVER you may have in mind about raising chicks you can't afford to get away from the idea of having money-making pullets next fall. That's a job that begins with the day-old chick. Two pounds of Purina Startena for the first six weeks gives a chick a flying start toward developing into the kind of pullets you'll want next fall.

Actual records, last year, on 925,427 chicks fed Startena show that 93 per cent of them lived. At six weeks of age the light breeds averaged 17.4 ounces per chick; the heavy breeds 19.2 ounces per chick. That's a lot of chick in a short length of time.

Purina Growena will take the six-week-old chick and make a real money-making pullet of her. She'll be big in frame . . . fully developed . . . fit to lay good sized pullet eggs right at the time egg prices are at the peak. Growena-fed pullets are the kind that you'll be mighty glad to have on hand next fall. They'll be laying eggs . . . and you'll be making money.

Don't be misled by claims of "just as good but cheaper." Poultry folks from coast to coast know Startena and Growena as America's best feed combination to turn chicks into money-making pullets. Startena and Growena have stood the test of many years . . . they have proven their right to be America's best.





ATLANTIC MOTOR OILS
100% Paraffine Base

	Net Price 55-gal. drums		
Atlantic Motor Oil Light Medium	\$0.55	per	gallon
Atlantic Motor Oil Medium	.55	"	"
Atlantic Motor Oil Winter Medium	.55	"	"
Atlantic Motor Oil Heavy	.55	"	"
Atlantic Motor Oil Extra Heavy	.55	"	"
Atlantic Motor Oil N. C.	.50	"	"
Atlantic Tractor Engine Oil	.50	"	"
Atlantic Heavy Tractor Engine Oil	.60	"	"

ATLANTIC MOTOR OIL AVIATION
100% Pennsylvania Paraffine Base

Atlantic Motor Oil Aviation Light Medium	\$0.75	per	gallon
Atlantic Motor Oil Aviation Medium	.75	"	"
Atlantic Motor Oil Aviation Summer	.80	"	"
Atlantic Motor Oil Aviation Heavy Summer	.80	"	"
Atlantic Motor Oil Aviation Winter	.80	"	"

ATLANTIC TRANSMISSION OILS

Atlantic EPFW Transmission Oil	\$0.75	per	gallon
Atlantic EP Lubricant	.60	"	"
Atlantic Worm Gear Oil	.60	"	"
Atlantic Gear Case Oil	.50	"	"
Atlantic 600 Transmission Oil	.45	"	"
Atlantic Winter Lubricant	.45	"	"

ATLANTIC AUTOMOTIVE SPECIALTIES

Atlantic Penetrating Oil	\$0.65	per	gallon
Atlantic One Shot Oil	.75	"	"
Atlantic Motor Valve Oil	.75	"	"
Atlantic Clutch Oil	.70	"	"
Atlantic Motor Flushing Oil	.25	"	"

BULK DELIVERIES AND PACKAGES OTHER THAN 55-GAL. DRUMS

25 gallons and over (bulk)	\$0.05 below 55-gal. drum price			
30-gallon drums	.02	above	"	"
15-gallon drums	.10	"	"	"
5-gallon can	.10	"	"	"
1-gallon cans	.25	"	"	"

Atlantic Transmission Oils and Atlantic Automotive Specialties cannot be delivered
in bulk

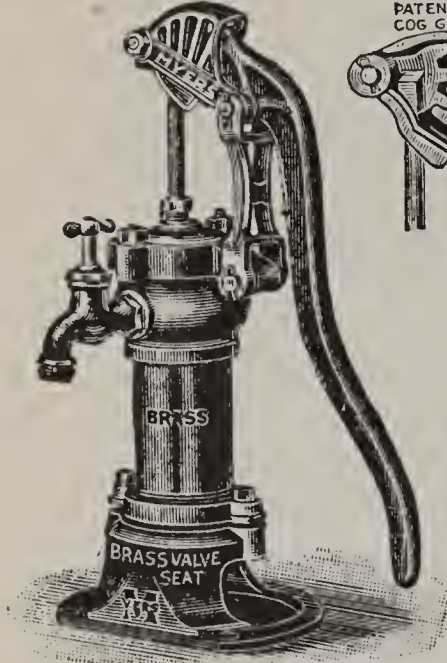
ATLANTIC MOTOR GREASES

	115 lb. drums	25 lb.	5 lb.
Atlantic Motor Grease No. 1	\$0.08	\$2.50	.85
Atlantic Motor Grease No. 3	.08	2.50	.85
Atlantic Lubricant D	.08	2.50	.85
Atlantic Universal Joint Grease	.10	3.00	.95
Atlantic Lubricant A	.10	3.00	.95
Atlantic Water Pump Lubricant	.11	3.25	1.00
Atlantic Wheel Bearing Grease	.10	3.00	.95



Any tax or other charge now or hereafter imposed by law,
shall be added to the price herein stated

Fig. 2443

PATENTED
COG GEARPATENTED
COG GEAR

The Myers Cog Gear House Force Pump.

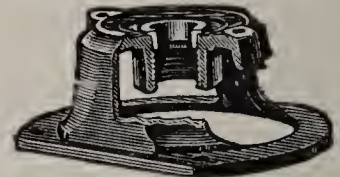
PATENTED.

ALUMINUM AND GOLD
FINISH.**33 1/3 % Less Power Required
to Operate.**

Fig. 2443 represents the Myers Single Acting House Force Pump fitted with our Patented Rolling Motion Cog Gear Handle and Seamless Drawn Brass Cylinder with Plain Brass Valve Seat and Hinged Check Valve. The head is attached to the pump by two hook bolts. The handle can be located at any angle desired. Arranged to drain the water to prevent freezing. The plunger can be withdrawn through head of pump. Tapped for back outlet. Can be used with Plain or Cock Spout. Entire height 20 inches.

PRICE LIST, Represented by Fig. 2443.

- | | |
|--|-------------------------|
| No. R414, Myers Cog Gear Single Acting House Force Pump with Plain Spout, 3 inch Brass Cylinder, with plain Brass Valve Seat, tapped for 1 1/4" pipe. Wt. 22 Lbs.GIFOL | Price
\$ 7.00 |
| No. R414CS, Same as No. R414, except with 3/4" Brass Cock Spout. Wt. 22 Lbs. GIFUZ | 8.00 |
- For Hose Connection, See Accessories.**

Fig.
1675PATENTED
COG GEARMalle-
able
Iron
Shield
Over
Cog
GearsPATENTED
COG GEARShowing Brass Valve Seat
Used with these Pumps.

The Myers Cog Gear Pitcher Pump.

Fitted With Brass Valve Seat.

Long Stroke.

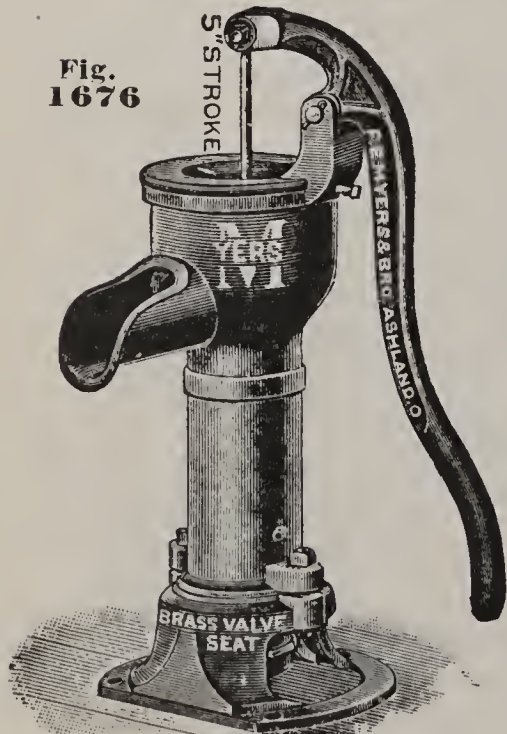
Large Capacity.

More Water With 33 1/3 % Less Power Required to Operate.

Fig. 1675 represents the Myers Long Stroke Pitcher Pump placed on the market by us to meet the demand for a pitcher pump with extra large capacity. This pump is fitted with our patented rolling motion cog gear handle. The handle can be adjusted to any desired angle. The cylinder is bored and highly polished. Arranged to drop the water to prevent freezing.

PRICE LIST, Represented by Fig. 1675.

- | | |
|--|-------------------------|
| No. R416, Myers Long Stroke Cog Gear Pitcher Pump, 3 inch, polished cylinder, with plain brass valve seat, tapped for 1 1/4" pipe. Wt. 21 Lbs. GIGAN | Price
\$ 4.25 |
| No. R417, As above, with 3 inch brass lined cylinder, tapped for 1 1/4" pipe. Wt. 23 Lbs. ..GIGEF | 5.75 |
| No. R418, Myers Long Stroke Cog Gear Pitcher Pump, 3 1/2 inch polished cylinder, with plain brass valve seat, tapped for 1 1/2" pipe. Wt. 25 Lbs. GIGIX | 5.25 |

Fig.
1676S
STROKE

Myers Long Stroke Pitcher Pump.

Fitted With Brass Valve Seat.

Long Stroke (5"). Large Capacity.

Fig. 1676 represents the Myers Long Stroke Pitcher Pump built to fill the requirements of a pitcher pump where capacity is considered. The cylinder is bored and highly polished. The handle is adjustable to any angle. Arranged to drop the water to prevent freezing.

PRICE LIST, Represented by Fig. 1676.

- | | |
|--|-------------------------|
| No. 416, Myers Long Stroke Pitcher Pump, 3 inch polished cylinder, with plain brass valve seat, tapped for 1 1/4 inch pipe. Wt. 21 Lbs.GIGOK | Price
\$ 4.00 |
| No. 417, As above, with 3 in. brass lined cylinder. Wt. 21 Lbs. ....GIGTA | 5.50 |
| No. 418, Myers Long Stroke Pitcher Pump, 3 1/2 inch polished cylinder, with plain brass valve seat, tapped for 1 1/2 inch pipe. Wt. 24 Lbs. GIHAM | 5.00 |

The Myers Self-Oiling Home Water System.

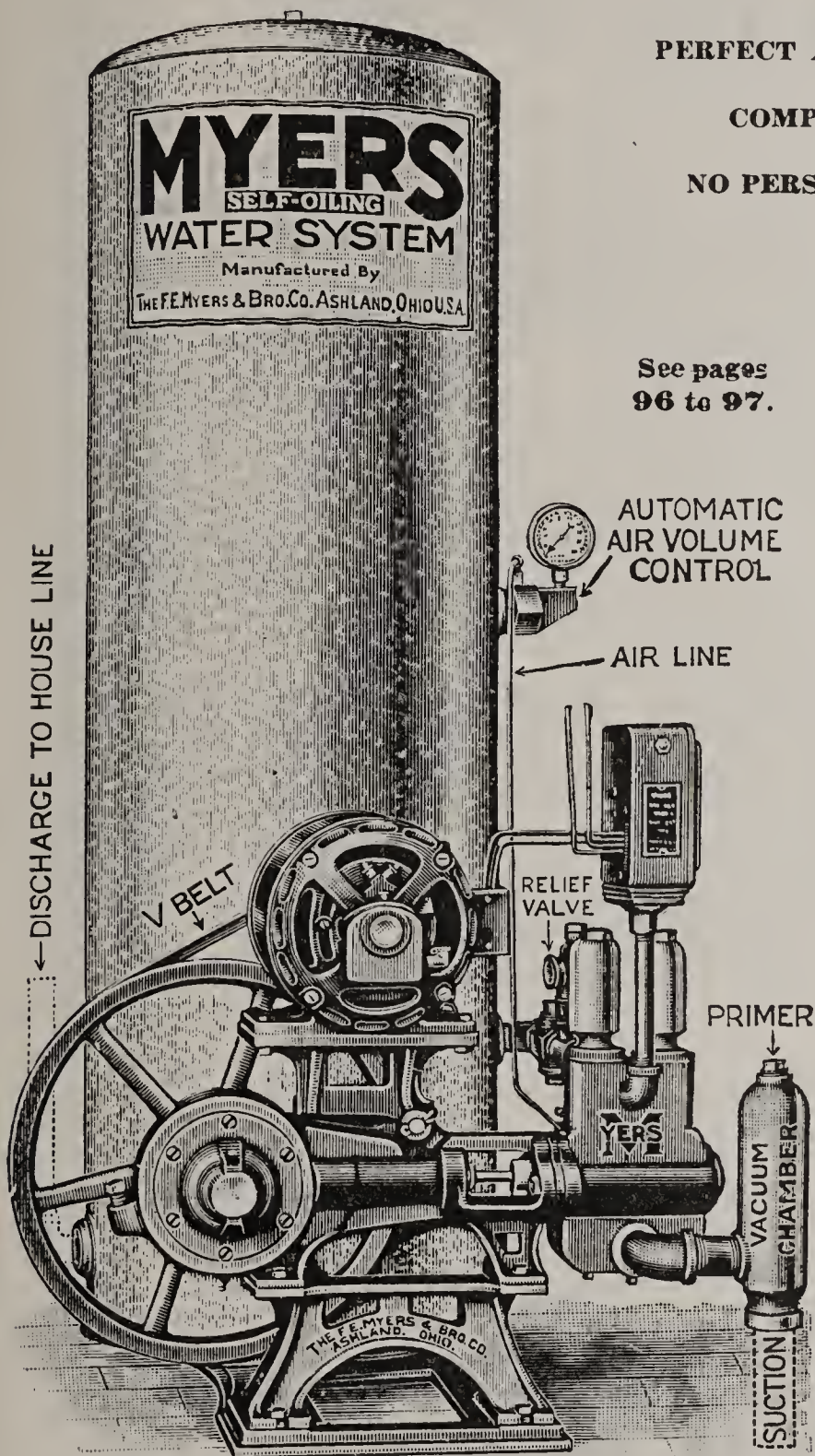
Fig. 2510

PATENTED.

PERFECT AND CONTINUOUS LUBRICATION.

COMPLETE AUTOMATIC CONTROL.

NO PERSONAL ATTENTION NECESSARY.

See pages
96 to 97.

Designed for Operation from any kind of City Current or from Farm Lighting and Power Systems.

For use in Cisterns or Shallow Wells up to 22 feet to Low Water Level.

CAPACITY:

250 Gallons Per Hour.

340 Gallons Per Hour.

210 R. P. M.

Floor Space: 25" x 30" x 51" High.

The Myers Self-Oiling Home Water System is automatic. Its operation is controlled by an electric switch which automatically starts the pump when the pressure in the tank falls to 20 pounds and stops the pump when the pressure reaches 40 pounds. The pressure is always maintained between these two points.

The air supply in the tank is controlled by the Automatic Air Volume Control. No personal attention necessary.

PRICE LIST, Represented by Fig. 2510.

Pump No.	Capacity Gal. per Hour	Motor		Suc. Inch	Disch. Inch	Tank Galv.	Wt.	Price	Net Cash Price
		H. P.	Current						
906AT	250	1/6	A.C.	3/4	3/4	42 Gal.	239	\$70.50	\$67.00
909AT	340	1/4	A.C.	1	3/4	42 Gal.	245	74.75	71.00

The 909AT, when fitted with 1/3 H. P., A. C. Motor, add to above price..... \$2.65

Foot Valve With Brass Gauze Strainer. Price..... 1.30

The above Water Systems are complete with Motor, Vacuum Chamber, Relief Valve, Pressure Control Switch, Pressure Gauge, V-Type Belt, Base, 42 Gal. Galvanized Tank, Automatic Air Control and Connecting Fittings.

For 1/6 HP D. C. MOTOR Add to the above Price, \$5.25

For 1/4 HP D. C. MOTOR Add to the above Price,90

If Frequency and Voltage are other than specified on page 98, there will be an extra charge. Specify current used. If A. C. give phase, frequency and voltage. If D. C. give voltage.

The No. 909AT will supply a 3/4 inch Gem Nozzle wide open at 35 pounds pressure for sprinkling.

Here is the Point!

MEASURE the value of your paint by the years of service it will give you—plus the appearance and number of square feet it will cover to the gallon—and you will decide to use B P S—the Best Paint Sold—and in the end—the lowest in cost.

B P S Paint covers from 350 to 400 sq. feet, two coats; a cheap paint will cover not to exceed 250 sq. feet.

B P S wears for years and leaves a surface that can be re-painted successfully.

Think it over seriously; figure out the cost per year and the cost per gallon. B P S will be the best investment. Best Paint Sold.

82 Beautiful Colors to Select From

We carry a full line of Brushes, Linseed Oil, Turpentine and Jewett White Lead



Carey

READY
ROOFINGS

GET OUR LOW PRICES



The Carey Roofs we sell are made by a manufacturer with a 60-year record of success. Including shingles and roll roofings in a wide variety of weights and colors, there are types for all kinds of buildings.

Carey Roofs are made in the largest roofing plant in the world; that's why they can be sold at prices no higher—and many times lower—than untested materials. Let us give you a free estimate, and thus prove that we can save money for you.



"A Roof for Every Building"



Carey

ROOFINGS & SHINGLES

STANDARD FOR OVER 60 YEARS

The Importance Of Spraying

Our Agricultural Colleges and Experimental Stations backed by both the State and Federal Governments have been largely instrumental in awakening the general public to the real importance of spraying. This has been accomplished through numerous bulletins and circulars issued from time to time and distributed by tens of thousands, so that first hand and reliable spraying information has been broadcast into every nook and corner of the United States. In fact, so thoroughly has the matter of spraying been investigated and advertised, that no one today is ignorant of its importance, but, there are yet those who for different reasons, have not given it attention while others are profiting by this neglect and getting better prices right along for their products.

Spray Intelligently

The control of garden insects and other diseases which attack and destroy plants and vegetables is just as important to those who have home garden and truck patches as it is for those who grow plants and vegetables for commercial purposes. Neither the small garden or the acres devoted to potatoes and similar crops can be neglected in as far as spraying is concerned if they are to prove profitable.

Where field crops such as potatoes, cabbages, tomatoes and numerous other plants and vegetables are grown for commercial purposes, spraying is essential to satisfactory crop yields and profits. Because of this experienced market growers everywhere recognize the importance of spraying and their spraying operations throughout the season are timed with the same precision and care as those of the orchardist or fruit grower who as everybody knows has for many years depended on his spraying equipment to protect his trees and fruit from fungous diseases, insects and many other pests with which we are all more or less familiar.

Whether you grow fruits or vegetables, whether you have a back yard garden or orchard, devote acreage to vegetables and field crops or have a large or small orchard, it is necessary to spray. And with the marked improvement in spraying equipment and the scientific development of commercial spraying mixtures for practically every spraying activity, spraying has been simplified and made more certain of results so that it is no longer an excuse for anyone regardless of experience to permit of his tilling and planting labors to go for naught through neglecting to spray.

Your own State Agricultural Experimental Station or College issues reliable free bulletins on the control of tree, orchard, plant and garden insect pests and diseases. The accurate information these bulletins contain will help you wipe out wasted time and labor in your gardens and flower beds, in your fields and orchards, and whether you live in city, town or village, or in the country, your State Agricultural Experimental Station or College will be glad to help you solve your spraying problems.

The study of plant insects and diseases, their life history and habits have shown four requisites for applying the spray effectually: namely, intelligence, timeliness, thoroughness and the use of recognized high grade spraying materials. Intelligence should be shown not only in the study of the enemies of plant life and their habits, but also in the preparation of the mixtures and application.

Do not spray in the middle of a blazing hot afternoon, as even clear water is likely to scald the foliage to a greater or less extent when the temperature is extreme. Do not be afraid of wasting spray on the ground. When using lime-sulphur solution and arsenate of lead, or weak Bordeaux mixture, always spray the trees until they drip freely. By so doing, the liquid slips off the leaves and falls to the ground, instead of hanging in large cohesive drops on the lower edges until evaporation removes it. There is less danger of burning the foliage by this method and the spray that falls goes exactly where it is needed most. Fallen leaves, mummied and rotten fruit, falling beneath the trees render the soil, mulch and grass, under them, more full of disease spores than any other place in the orchard, not even excepting the bark surface of the trunks and limbs. A thorough drenching of the circle under the trees is exceedingly important, and if wetted with the drip, it will not be necessary to direct the spray nozzles to cover them. If spraying with a miscible oil or with a very caustic insecticide, the aim should be to merely dampen the bark and foliage, and prevent dripping so far as possible, and especially any streaming of the spray down the limbs and trunk. Take care that oils and caustic washes do not saturate the soil at the bases of the trees, and thus by killing a ring of bark girdle them. Remove soil so saturated, immediately after spraying, and replace with fresh earth. By timeliness, we mean making the application when it will do the most good, as every delay is of advantage to the parasite. It is thus advisable to be always ready for action and when the time comes, spray. Thoroughness will bring its own reward. It costs much more to do a poor job than to do a good one. When spraying a tree, spray it well, as insects cannot be expected to hunt for the poison. After the work is finished, you should have the feeling that it is well done and entertain no fear as to the result.

THERE ARE TWO GROUPS OF ORCHARD PESTS:

CHEWERS: Insects that devour and swallow portions of the plant or tree are killed by poison distributed on the plant and taken into the stomach through the mouth. Killed by arsenate of lead, etc.

SUCKERS: (Scales, Plant Lice, Red Bug.) Insects that destroy the plant life by penetrating the bark and plant tissues sucking the juice, and in that way weaken and eventually kill the plant or tree. Killed by spray coming in contact with their bodies or eggs. Killed with lime, sulphur, miscible oils, oil emulsions, nicotine sulphate, derrisol, etc.

In not a few cases, it has happened that those once interested in spraying, later, were disappointed in the results and gave up the practice. Of all orchard work, spraying is most likely to be slighted or neglected, so that most cases of failure may be traced to the use of the wrong formula, to the failure to spray at the proper time, or to a lack of thoroughness of application. But spraying is not to be considered an exact science, as methods and formulae should be adapted and modified to meet varying conditions. Moreover, the beginner need not fear that his trees will be ruined by lack of knowledge relative to the full and exact methods of preparing formulae, for only by gross carelessness or utter disregard of the simple directions and information herewith given could such results occur. The man who would be successful in spraying must learn to know the insects and disease by their appearance and their work so as to apply the right treatment at the proper time.

PLANT AND TREE ENEMIES

Two kinds of enemies attack fruit trees and plants, namely; insects and fungous diseases. The application of substances, usually liquid, to the tree or plant for the purpose of preventing or destroying these constitutes spraying, insecticides being used for the insects and fungicides for the fungous growths. We spray to destroy insects and to prevent fungous diseases. For convenience, injurious insects are usually divided into two classes, based upon their feeding habits; eating or chewing insects and sucking insects.

FEEDING HABITS OF INSECTS

Chewing insects are those having jaws by means of which they bite off and eat portions of the tissues of the plant, such as foliage, fruit buds, tender bark, etc. Examples of this class are—the codling-moth which causes wormy apples, the plum curculio, the potato “bug” or beetle, caterpillars, etc. Most of the insects of this class are very easily controlled by applying to their food arsenical poisons, such as Paris green and arsenate of lead which is placed within their feeding range to be found by them sooner or later. It is with this class that success depends greatly upon spraying at the proper time; for example, the codling-moth caterpillar may be killed if there is some poison on the apple just as the insect eats its way in, but after once getting into the fruit it is safe.

Sucking insects are those furnished with a beak or slender tube with which they pierce the plant tissue and suck out the sap. Examples of this class are San Jose scale, oyster scale scurfy scale, aphias, plant lice, etc. These insects are safe from

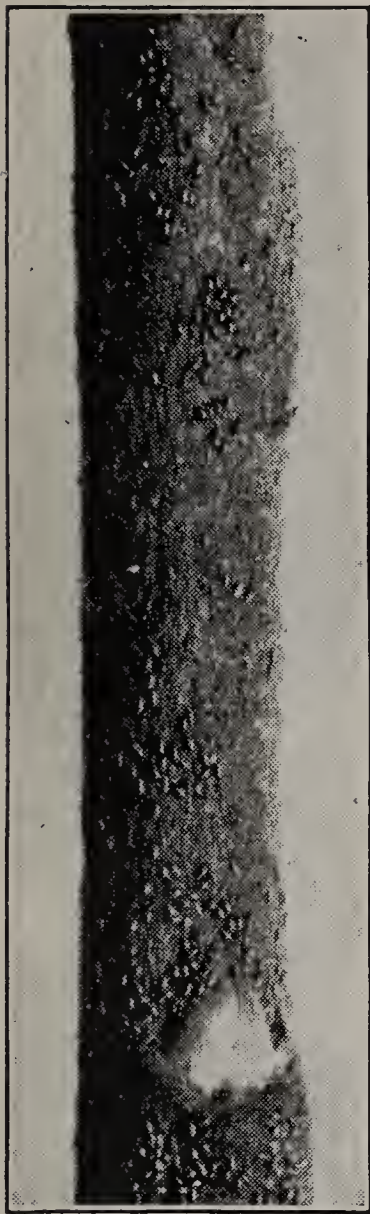
poisons because we cannot get any poison into their food and must be killed by a direct application of such insecticides as will kill by contact, of which the most common are the lime sulphur wash and oil emulsion. In fighting this class of insects very thorough work is required, for every individual insect must be hit by the spray.

CODLING MOTH

To be successful when spraying a knowledge of certain elementary facts is essential, and a short recital of certain life habits of one of the most important insects throughout its changes may prove helpful and also point out the reasons for proper preparations and precautions. Taking the life of the codling-moth and dividing it into a cycle of four stages, (see chart on next page) we find certain periods when it is vulnerable and others when it is protected.

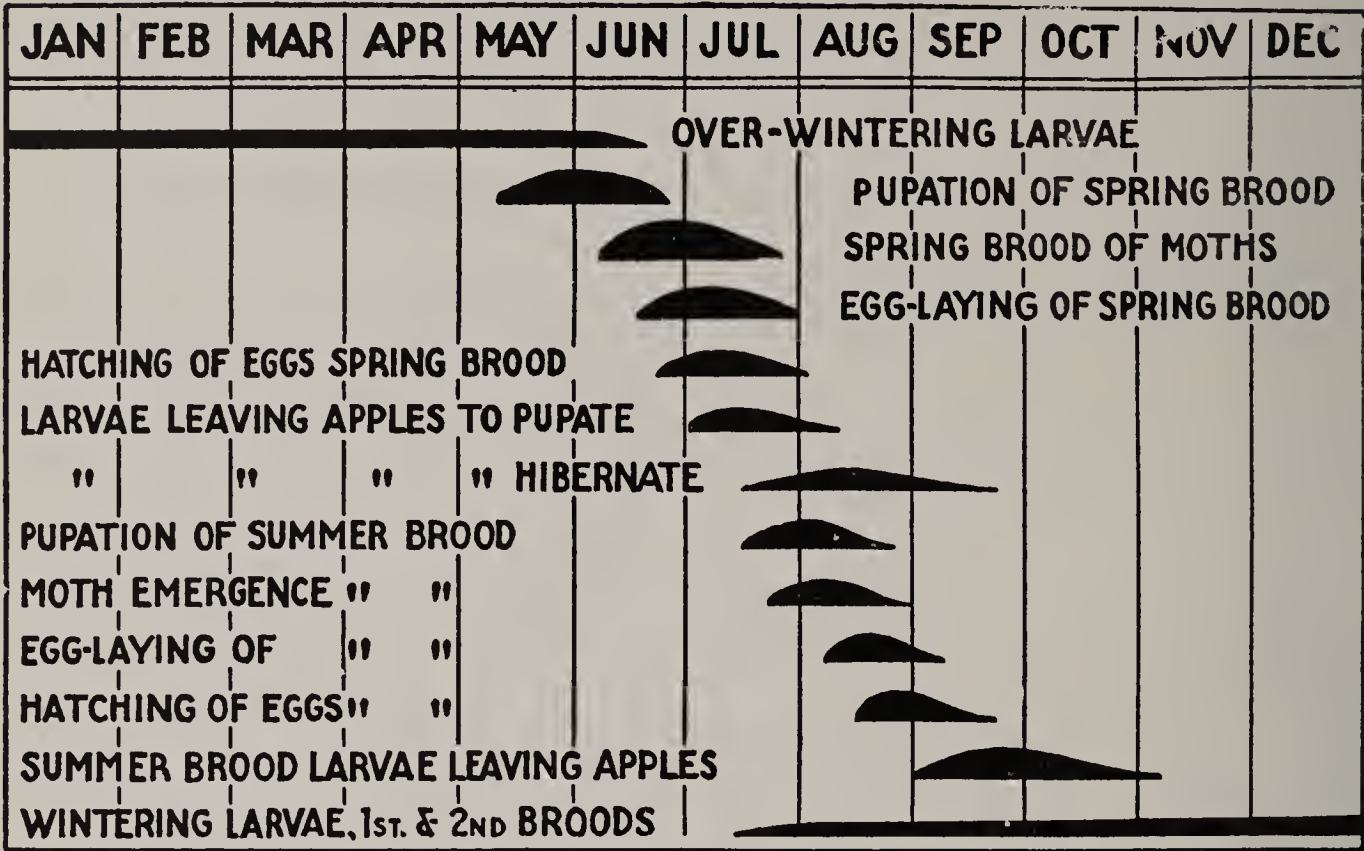


Scurfy Bark Louse. Large Scales, female. Small Scales, male. (Enlarged) Courtesy Ohio Agricultural Experiment Station.



Overwintering eggs of aphids or plant lice on apple twig. Courtesy Ohio Agricultural Experimental Station.

As an example, the life of the codling moth is divided into a cycle of four stages, (note chart carefully) certain periods of which it is vulnerable and other when it is protected. The egg is laid on or near the young apple. The caterpillar or apple worm is hatched from the egg and eats its way through the blossom into the apple, this being the only stage when the insect grows. In the third or resting stage the caterpillar has changed to the pupa under the bark of the tree while in the fourth adult or moth stage reproduction takes place and another cycle of the codling moth begins.

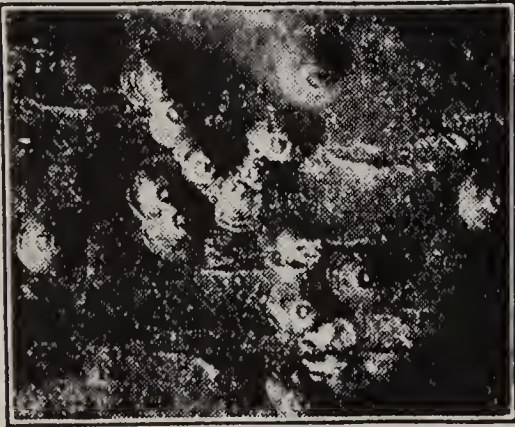


The above Chart pictures the stages of development of the codling moth during the different months of the year. Note—there are normally two broods at Wooster, Ohio. In some parts of the United States there are more than two broods per season. Courtesy Ohio Agricultural Experiment Station.

This clearly shows why we should spray poison for this chewing insect just after the blossoms have fallen and before the calyx closes, a period of about a week, so that the poison will be waiting for the caterpillar, as it starts to enter into the apple and its first bite may be its last. If, however, the caterpillar should escape this first poisoning, the other stages of the codling moth will follow and reproduction will take place, which explains the necessity of spraying again at later periods in order to destroy the second generation of the insects which multiply very fast if left alone.

PROPER SEASON TO SPRAY FOR SUCKING INSECTS

With the sucking insects such as San Jose Scale, treatment ought to be made when the trees are dormant, because of the caustic nature of the mixture used. Thus spraying for the sucking insects should be conducted in the fall after the leaves have dropped from the trees, when not freezing in winter or before the buds open in the spring. Fall and winter spraying have not been indulged in to any great extent in many localities, although much can be said in favor of these seasons, as the scale insects are not yet entirely dormant and the prevailing fair weather and usual slackness of work give better opportunities. However, the danger of injury to fruit buds and twigs especially from the use of mineral oils and whale-oil soap is unquestionably greater and it is generally conceded that in the case of lime-sulphur wash, notably better results follow spraying late in spring, to insure as large an amount of spray on the trees as possible during early summer, and thus destroy any young scales from adults which may have escaped destruction. But in either fall or spring there exists the advantage of the absence of foliage, thus permitting stronger and more thorough applications than during the growing seasons. And thoroughness is the prime essential in making these applications, covering every part of the tree from top to bottom, as only those insects coming into actual contact with the spray are killed.



San Jose Scale (Greatly Enlarged). Courtesy Ohio Agricultural Experiment Station.



Oyster Shell Bark Louse (Slightly Enlarged).
Courtesy Ohio Agricultural Experiment Station.

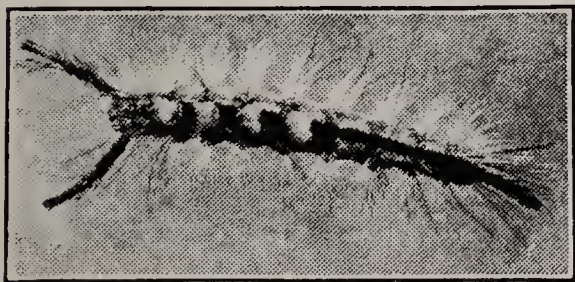
their causticity neutralized if used while the trees are in foliage. About 70 per cent of fungous difficulties are upon the underside of the leaves or twigs and when spraying for diseases of this type this should be borne in mind so that every part of the tree is reached. Particular care should be exercised when spraying trees to insure perfect coverage.

FUNGUS DISEASES

Fungous diseases are parasitic consisting of plants or growths of low form, which live on other living plants. Examples, apple and pear scab; black, brown and bitter rot, mildew, etc. These diseases are disseminated almost wholly by the means of spores, which are extremely small, disk-like bodies corresponding to the seed of higher plants and are usually borne on the surface. These spores are produced in great abundance and each one is capable of starting a new fungus. They are carried from one plant to another by means of wind, water and insects. For fungous diseases, then, a spray is required which will kill the spores and the important point is to commence spraying with fungicides before the disease presents itself, as spraying for fungous diseases is a preventive rather than a cure. For this purpose the combination of lime and blue vitrol, known as Bordeaux mixture, is the principal remedy. Here again thoroughness is of the utmost importance.

With the fungous diseases spraying is more particularly a preventive measure and should be done when the trees are dormant, or while the spores are existing on the outside of plants in order to destroy those fungous seed spores that have held over and before they have taken root, when they cannot be controlled. Caustic washes are used and should have

SHADE TREES, ORNAMENTAL TREES AND SHRUBBERY



Larva of the white marked tussock moth
—a common pest of shade trees. Courtesy
Ohio Agricultural Experiment Station.

In residential sections, in parks and country estates where shade and ornamental trees are to be found in large numbers, insects and other diseases have been especially destructive, and the problem of destroying them has become one of national scope. Power driven spraying equipment is being used more and more for this purpose while bulletin after bulletin has been issued by our agricultural and experimental stations giving accurate information and instructions as to how and when to carry on spraying operations at the right seasons of the year. These bulletins are available to anyone who has trees or shrubbery to protect against the inroads of insects and other tree diseases and can be had for the asking by writing your own agricultural college or experiment station.



Cottony maple scale. (Slightly enlarged). Courtesy Ohio A. E. Sta.

WINTER SPRAYING

The winter or dormant spray should never be neglected for both scale and leaf curl are widely disseminated over the Country and soon gain a foothold in orchards where the winter spray is not part of the yearly program. Under average conditions, this spray is probably the most important one that the orchardist can give his trees, as it takes but a short time for either of these enemies to make serious inroads in the orchard. Fortunately, both of them can be controlled by a single thorough application each winter, of concentrated lime-sulphur. If every apple or peach grower could but appreciate the benefits of this one spray, the fruit crop would take a jump forward. The winter spray is probably worth its cost in the sanitary effect alone.

Material for Winter Spray—Concentrated lime-sulphur applied when the trees are dormant will effectively eradicate both the scale and leaf curl. The miscible oils will control the scale, but are not effective against the curl, and so lime-sulphur constitutes the economical winter spray for peaches. Concentrated lime-sulphur may be bought as a ready-made, commercial preparation or it may be prepared at home; *in either case it is diluted for use. The concentrated lime-sulphur should not be confused with the self-boiled lime-sulphur, which is a different preparation and used for an entirely different purpose.

The winter spray may be applied at any time in the late fall, winter or early spring while the trees are yet dormant. The material should be diluted according to its strength; the spray solution should test five degrees Baume. The ordinary commercial material testing 32 degrees Baume will require a dilution of one gallon of lime-sulphur to eight gallons of water. Thoroughness is an absolute essential to successful spraying. Every branch and twig should be thoroughly coated with the spray, if the scale insects and the spores of the leaf curl are to be killed.

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SEED AND PLANT TABLES.

	Quantity Per Acre	Weight Per Bu.
Barley	95 to 120 lbs.	48 lbs.
Blue Grass (Canada)	25 to 40 lbs.	14 lbs.
(Kentucky)	25 to 40 lbs.	14 lbs.
Buckwheat	50 to 60 lbs.	48 lbs.
Clover-Alfalfa (Broadcast)	20 to 30 lbs.	60 lbs.
" (Drills)	15 to 20 lbs.	60 lbs.
" Crimson	10 to 20 lbs.	60 lbs.
" Red	10 to 15 lbs.	60 lbs.
" White	5 to 10 lbs.	60 lbs.
Corn (Hills)	15 to 20 lbs.	56 lbs.
" (drills for fodder)	60 to 75 lbs.	56 lbs.
" (broadcast)	120 to 150 lbs.	56 lbs.
Cow Peas in Drills	60 to 90 lbs.	60 lbs.
Millet (Common)	25 to 40 lbs.	48 lbs.
" (Hungarian)	25 to 40 lbs.	48 lbs.
" (Japanese)	12 to 20 lbs.	32 lbs.
Oats	60 to 90 lbs.	32 lbs.
Orchard Grass	25 to 40 lbs.	14 lbs.
Rape (broadcast)	5 to 6 lbs.	60 lbs.
(drills)	3 to 4 lbs.	60 lbs.
Red Top (unhulled)	25 to 40 lbs.	14 lbs.
" (recleaned)	10 to 15 lbs.	35 lbs.
Rhode Island Bent Grass	25 to 40 lbs.	14 lbs.
Rye Grass (Italian)	40 to 50 lbs.	18 lbs.
Soja Beans (broadcast)	50 to 75 lbs.	60 lbs.
" (in rows)	20 to 30 lbs.	60 lbs.
Sudan Grass	15 to 20 lbs.	
Timothy	15 to 30 lbs.	45 lbs.
Vetch (Spring)	50 to 70 lbs.	60 lbs.
Vetch (Winter)	30 to 60 lbs.	60 lbs.
Wheat	90 to 120 lbs.	60 lbs.
Potatoes	12 Bu.	60 lbs.
Clover, } together, for one acre.. . . .		8 pounds
Timothy, }		¼ bushel
Red Top, }		3 pounds
Peas in drills are sown 1¼ to 1½ bushels to the acre.		
Carrots,	usually sown to the acre, 2½ to 3 lbs.	
Beets,	" " " " "	4 to 6 lbs.
Parsnips,	" " " " "	3 to 6 lbs.
Onions,	" " " " "	4 to 6 lbs.
Ruta Bagas,	" " " " "	1 lb.
Turnips,	" " " " "	1 to 1½ lbs.
Beans,	" " " " "	1½ to 2 bu.

Quantity of Corn Required to Plant an Acre, Five Grains in a Hill.

3 ft. x 2	18 qts.	3 ft. x 3	14 qts.
3½ ft. x 3	10 qts.	3¾ ft. x 3	8 qts.
3 ft. x 4	7 qts.	4 ft. x 4	6 qts.

Number of Plants per Acre at Given Distances.

1 ft. x 1 ft.	43,560	9 ft. x 9 ft.	537
1½ ft. x 1½ ft.	19,360	12 ft. x 12 ft.	362
2 ft. x 2 ft.	10,890	15 ft. x 15 ft.	163
2½ ft. x 2½ ft.	6,969	18 ft. x 18 ft.	134
3 ft. x 3 ft.	4,840	20 ft. x 20 ft.	100
4 ft. x 4 ft.	2,722	25 ft. x 25 ft.	73
5 ft. x 5 ft.	1,742	30 ft. x 30 ft.	47
6 ft. x 6 ft.	1,210	40 ft. x 40 ft.	20

Quantity of Seed Required for a Given Number of Plants, or Number of Hills, or Length of Drill.

Asparagus,	1 oz. to 65 ft. of drill	Musk Melon,	1 oz. to 60 hills
Beets,	1 oz. to 50 ft. of drill	Okra,	1 oz. to 40 ft. of drill
Beans, Dwarf,	1 qt. to 100 ft. of drill	Onion,	1 oz. to 100 ft. of drill
Beans, Pole,	1 pt. to 150 hills	Onion Sets, small,	1 qt. to 4 ft. of drill
Carrot,	1 oz. to 150 ft. of drill	Parsley,	1 oz. to 150 ft. of drill
Cabbage,	1 oz. to 3,000 plants	Parsnip,	1 oz. to 200 ft. of drill
Cauliflower,	1 oz. to 3,000 plants	Peas,	1 qt. to 100 ft of drill
Celery,	1 oz. to 4,000 plants	Pumpkin,	1 oz. to 40 hills
Cucumbers,	1 oz. to 50 hills	Pepper,	1 oz. to 2,000 plants
Corn,	1 qt. to 400 hills	Radish,	1 oz. to 100 ft. of drill
Dandelion,	1 oz. to 200 ft of drill	Salsify,	1 oz. to 70 ft. of drill
Endive,	1 oz. to 150 ft. of drill	Spinach,	1 oz. to 100 ft. of drill
Egg Plant,	1 oz to 2,000 plants	Squash, early,	1 oz. to 50 hills
Lettuce,	1 oz. to 4,000 plants	Squash, marrow,	1 oz. to 16 hills
Leek,	1 oz. to 100 ft. of drill	Tomato,	1 oz. to 3,000 plants
Watermelon,	1 oz. to 80 hills	Turnip,	1 oz. to 150 ft. of drill

One Gallon, by the U. S. Standard Unit of Liquid Measure contains 231 cubic inches.
The U. S. Bushel contains 2,150.42 cubic inches.
An Acre contains 43,560 square feet.



